Query

10950 9

Access DB# _____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Ganapathy Krishnan Examiner #: 79271 Date: 12/2/03

Art Unit: 1623 Phone Number 305-4837 Serial Number: 10/616922

Mail Box and Bldg/Room Location: 8D08 Results Format Preferred (circle): PAPER DISK E-MAIL

8B19

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): Please See bib sheet.

_____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for a poly-β-1→4-N-acetylglucosamine (claim 1). Also search for the same wherein the glucosamine has been deacetylated.

****

STAFF USE ONLY

Searcher: _____

Searcher Phone #: _____

Type of Search

NA Sequence (#)_____

AA Sequence (#)_____

Vendors and cost where applicable

STN _____

Dialog _____

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

SEARCH REQUEST FORM

Requestor's Name: _____ Serial Number: _____

Date: _____ Phone: _____ Art Unit: _____

Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevent citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevent claim(s).

STAFF USE ONLY

Date completed: 12-12-03

Searcher: Prowing © 1999

Terminal time: 33

Elapsed time: _____

CPU time: _____

Total time: 43

Number of Searches: _____

Number of Databases: 1

Search Site

_____ STIC

_____ CM-1

_____ Pre-S

Type of Search

_____ N.A. Sequence

_____ A.A. Sequence

_____ Structure

_____ Bibliographic

Vendors

_____ IG

_____ STN

_____ Dialog

_____ APS

_____ Geninfo

_____ SDC

_____ DARC/Questel

_____ Other

PTO-1590 (9-90)

Krishnan
10/616922


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     FILE 'HCAPLUS' ENTERED AT 11:05:46 ON 12 DEC 2003
L1            39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POLY(1W)1(1W)4(W)N(W)(AC
                 ETYLGLUCOSAMINE OR ACETYL(W)GLUCOSAMINE) OR P(W)GLCNAC
L2            12 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND (PURE OR PURIF?)

L1            39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POLY(1W)1(1W)4(W)N(W)(AC
                 ETYLGLUCOSAMINE OR ACETYL(W)GLUCOSAMINE) OR P(W)GLCNAC
L3             9 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND (RABBIT OR HARE
                 OR MICE OR MOUSE OR RAT)

L1            39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POLY(1W)1(1W)4(W)N(W)(AC
                 ETYLGLUCOSAMINE OR ACETYL(W)GLUCOSAMINE) OR P(W)GLCNAC
L4             6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND (DEACETYLAT? OR
                 DE ACETYLAT?)

L5            19 S L2 OR L3 OR L4

L5   ANSWER 1 OF 19  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2002:974660  HCAPLUS
DOCUMENT NUMBER:          138:164512
TITLE:                    Genomic structure of the human
                          UDP-GlcNAc:dolichol-P GlcNAc
                          -1-P transferase gene
AUTHOR(S):                Regis, Stefano; Dagnino, Fabio; Caroli,
                          Francesco; Filocamo, Mirella
CORPORATE SOURCE:         Laboratorio di Diagnosi Pree Postnatale di
                          Malattie Metaboliche, Istituto G. Gaslini-Largo,
                          Genoa, 16147, Italy
SOURCE:                   DNA Sequence (2002), 13(5), 245-250
                          CODEN: DNSEES; ISSN: 1042-5179
PUBLISHER:                Taylor & Francis Ltd.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   The UDP-GlcNAc:dolichol-P GlcNAc-1-P transferase
     catalyzes the first and committed step in the dolichol cycle, thus
     playing a fundamental role in the pathway for protein
     N-glycosylation.  The structure of the GlcNAc-1-P transferase gene
     has been previously elucidated in mouse and hamster.
     Moreover, the human cDNA has been cloned.  Using sequence database
     tools, we deduced the genomic structure of the human GlcNAc-1-P
     transferase gene, which was exptl. confirmed by sequence anal.  The
     gene is composed of 9 exons and spans 5.5 kb.  All splice acceptor
     and donor sites conform to the canonical AG/GT rule.  The 5'-end of
     the gene is different from previously reported, as, consequently,
     the N-terminal of the encoded protein, which is predicted to be 408
     amino acids long.  The transcription start site, determined by 5' RACE,
     occurs 180 nucleotides upstream of the translation initiation codon.
     Several potential transcription regulatory motifs, such as Sp-1,
     E4TF1 and ATF binding sites, were identified in the 5'-flanking
     region.  A polyadenylation signal is located 466 bp downstream of
     the stop codon.  The genomic organization of the gene is similar to
     that of the corresponding mouse and hamster genes, though
     extensive homol. is restricted to the coding regions.  Anal. of a
     panel of radiation hybrids led to the assignment of the GlcNAc-1-P
     transferase gene to chromosome 11, at 4.19 cR from NIB361, according
     to the location of the homologous sequences in the database at
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11q23.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:43909 HCAPLUS
DOCUMENT NUMBER: 136:303810
TITLE: Vascular Effects of Poly-N-Acetylglucosamine in Isolated **Rat** Aortic Rings
AUTHOR(S): Ikeda, Yasuhiko; Young, Lindon H.; Vournakis, John N.; Lefer, Allan M.
CORPORATE SOURCE: Department of Physiology, Jefferson Medical College, Thomas Jefferson University, Philadelphia, PA, 19107, USA
SOURCE: Journal of Surgical Research (2002), 102(2), 215-220
CODEN: JSGRA2; ISSN: 0022-4804
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Poly-N-acetylglucosamine (**p-GlcNAc**) is a secretion of marine diatoms that is known to be useful in controlling bleeding. As a component of promoting hemostasis, **p-GlcNAc** is thought to exert vasoconstrictor effects in arteries. The authors examined vascular effects of **p-GlcNAc** on isolated aortic rings obtained from Sprague-Dawley **rats**. The rings were suspended in organ baths and precontracted with U46619, a thromboxane A2 mimetic. The **p-GlcNAc** produced a concentration-dependent vasoconstriction over the range of 14 to 100 g/mL. At a concentration of 100 μg/mL, **p-GlcNAc** significantly contracted aortic rings by 133 mg of developed force. Neither a **deacetylated** derivative of **p-GlcNAc** nor a structurally related macromol., chitin, contracted **rat** aortic rings, indicating a specificity for **p-GlcNAc**. The vasoconstriction to **p-GlcNAc** was totally abolished in deendothelialized **rat** aortic rings, suggesting that an endothelial component is essential to the vasoconstriction. Pretreatment with the endothelin ETA receptor antagonist, JKC-301 (0.5 and 1 μM), significantly diminished **p-GlcNAc**-induced vasoconstriction by 57-61%. However, **p-GlcNAc** did not significantly diminish nitric oxide release from **rat** aortic endothelium. These results provide evidence that **p-GlcNAc** significantly contracts isolated **rat** aortic rings via an endothelium-dependent mechanism, partly via enhancement of endothelin-1 release from endothelial cells. (c) 2002 Academic Press.
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:889872 HCAPLUS
DOCUMENT NUMBER: 136:368074
TITLE: Sustained release of granulocyte-macrophage colony-stimulating factor from a modular

peptide-based cancer vaccine alters vaccine microenvironment and enhances the antigen-specific T-cell response

AUTHOR(S): Nguyen, Christophe L.; Bui, Joe T.; Demcheva, Marina; Vournakis, John N.; Cole, David J.; Gillanders, William E.

CORPORATE SOURCE: Department of Surgery, Section of Surgical Oncology, Medical University of South Carolina, Charleston, SC, 29425, USA

SOURCE: Journal of Immunotherapy (2001), 24(5), 420-429
CODEN: JOIMF8; ISSN: 1053-8550

PUBLISHER: Lippincott Williams & Wilkins

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The recent identification and mol. characterization of tumor antigens provides the opportunity to explore the rational development of peptide-based cancer vaccines. However, the response to these vaccines remains variable, and peptide-based cancer vaccines may even produce tolerance induction and enhanced tumor growth. The authors have developed a unique method for the isolation of a polysaccharide polymer of CP poly-N-acetyl glucosamine (**p-GlcNAc**). This highly **purified** polysaccharide can be formulated into a stable gel matrix (designated F2 gel matrix) with unique properties of a sustained-release delivery system that has previously been shown to be an effective immune adjuvant. F2 gel matrix is capable of providing sustained release of antigenic peptide and cytokine in vitro. The purposes of this study were to characterize the ability of F2 gel matrix to provide sustained local release of cytokines in vivo and to test the hypothesis that such sustained release can enhance the microenvironment for antigen presentation, leading to a more effective antitumor response. S.c. administration of F2 gel/cytokine matrix resulted in sustained release of cytokine at the vaccine site for up to 120 h. Sustained release of granulocyte-macrophage colony-stimulating factor (GM-CSF) was associated with an increased inflammatory infiltrate at the vaccine site and enhanced dendritic cell activation. Further, vaccination with F2 gel/SIINFEKL/GM-CSF matrix resulted in enhanced antigen-specific immunity. Addition of GM-CSF to the F2 gel matrix resulted in an increase in the percentage of antigen-specific T cells in the draining lymph nodes, enhanced cytotoxicity, a sustained presence of antigen-specific T cells in the peripheral blood, and protection from E.G7 tumor challenge. These results support the potential of an F2 gel matrix modular vaccine delivery system that can provide sustained local release of cytokine in vivo, and confirm the powerful effects of GM-CSF as an immune adjuvant.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:777222 HCAPLUS

DOCUMENT NUMBER: 134:174626

TITLE: Chitin catabolism in the marine bacterium Vibrio furnissii. Identification, molecular cloning, and characterization of a N,N'-diacetylchitobiose phosphorylase

AUTHOR(S): Park, Jae Kweon; Keyhani, Nemat O.; Roseman,

Saul
CORPORATE SOURCE: Department of Biology and the McCollum-Pratt Institute, The Johns Hopkins University, Baltimore, MD, 21218, USA
SOURCE: Journal of Biological Chemistry (2000), 275(42), 33077-33083
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The major product of bacterial chitinases is N,N'-diacetylchitobiose or (GlcNAc)2. We have previously demonstrated that (GlcNAc)2 is taken up unchanged by a specific permease in Vibrio furnissii (unlike Escherichia coli). It is generally held that marine Vibrios further metabolize cytoplasmic (GlcNAc)2 by hydrolyzing it to two GlcNAcs (i.e. a "chitobiase"). Here we report instead that V. furnissii expresses a novel phosphorylase. The gene, chbP, was cloned into E. coli; the enzyme, ChbP, was **purified** to apparent homogeneity, and characterized kinetically. The DNA sequence indicates that chbP encodes an 89-kDa protein. The enzymic reaction was characterized as follows. (GlcNAc)2 + Pi .dblarw. GlcNAc-α-1- **P** + **GlcNAc**. K'eq = 1.0±0.2.
The Km values for the four substrates were in the range 0.3-1 mM. P-Nitrophenyl-(GlcNAc)2 was cleaved at 8.5% the rate of (GlcNAc)2, and p-nitrophenyl (PNP)-GlcNAc was 36% as active as GlcNAc in the reverse direction. All other compds. tested displayed ≤ 1% of the activity of the indicated substrates including: for phosphorolysis, higher chitin oligosaccharides, (GlcNAc)n, n = 3-5, cellobiose, PNP-GlcNAc, and PNP-(GlcNAc)3; for synthesis, (GlcNAc)n (n = 2-5), glucose, etc. (GlcNAc)2 is a major regulator of the chitin catabolic cascade. Conceivably GlcNAc-α-1-P plays a similar but different role in regulation.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:321538 HCAPLUS
DOCUMENT NUMBER: 132:352792
TITLE: Pharmaceutical compositions for treatment of cell proliferative disorders containing endothelin antagonists and polyacetylglucosamine
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: U.S., 32 pp., Cont.-in-part of U.S. 5,858,350.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6063911	A	20000516	US 1998-218288	19981222
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201

Searcher : Shears 308-4994

US 5623064 A 19970422 US 1994-347911 19941201
US 5858350 A 19990112 US 1995-471290 19950606
CA 2356087 AA 20000629 CA 1999-2356087 19991221
WO 2000036918 A1 20000629 WO 1999-US30575 19991221
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1139752 A1 20011010 EP 1999-968523 19991221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2003522732 T2 20030729 JP 2000-589041 19991221
NO 2001003071 A 20010820 NO 2001-3071 20010620
PRIORITY APPLN. INFO.: US 1993-160569 A2 19931201
US 1994-347911 A2 19941201
US 1995-471290 A2 19950606
CA 1994-2177823 A3 19941201
US 1998-218288 A 19981222
WO 1999-US30575 W 19991221

AB The present invention relates to methods and compns. comprising at least one endothelin antagonist, preferably in combination with a **poly**-β- **1**.fwdarw.**4**-**N**-**acetylglucosamine** (**p-GlcNAc**) polysaccharide matrix, for use in the treatment of cancer and other proliferative diseases. The endothelin antagonist can be a peptide or non-peptide compound, and the **p-GlcNAc** matrix of the invention is comprised of a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β-1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. The compns. and methods of the invention are useful for inhibiting the growth of tumors and other neoplastic cells and/or for inhibiting the metastasis of neoplastic cells in vivo. **P-GlcNAc** was extracted from Thalassiosira fluviatilis (6.85 mg/L of culture), **purified** and **deacetylated** (preparation given). Efficacy of a mixture of 2% **p-GlcNAc** and 3 mg/kg Ro61-0612/001 in melanoma metastases in **mice** was shown.
REFERENCE COUNT: 98 THERE ARE 98 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:376668 HCAPLUS
DOCUMENT NUMBER: 131:204498
TITLE: Primary T-cell and activated macrophage response associated with tumor protection using peptide/poly-N-acetyl glucosamine vaccination
AUTHOR(S): Maitre, Nathalie; Brown, Jason M.; Demcheva, Marina; Kelley, Joseph R.; Lockett, Mark A.; Vournakis, John; Cole, David J.
CORPORATE SOURCE: Department of Surgery, Medical University of South Carolina, Charleston, SC, 29425, USA

SOURCE: Clinical Cancer Research (1999), 5(5), 1173-1182
CODEN: CCREF4; ISSN: 1078-0432
PUBLISHER: American Association for Cancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mode of peptide-based cancer vaccine administration critically affects the ability to achieve a clin. relevant tumor-specific response. We have previously shown that a specific formulation of the polysaccharide poly-N-acetyl glucosamine (**p-GlcNAc**, designated as F2 gel) is an effective vehicle for sustained cytokine and peptide delivery in vitro. The purpose of this study was to evaluate the efficacy of F2 gel/peptide vaccination in the murine EG.7-OVA tumor model and to elucidate potential mechanisms involved in the observed cell-mediated response. C57BL/6 **mice** were given injections of 200 μl in the base of tail/footpad using either F2 gel alone or 200 μg of: SIINFEKL minimal peptide (OVA) in PBS, OVA peptide/endoplasmic reticulum insertion signal sequence fusion (ESOVA) in PBS, OVA in F2 gel, or ESOVA in F2 gel. Splenocytes were tested 10 days later for a secondary response using a Cr51 assay as well as a primary CTL response using the lactate dehydrogenase cytotoxicity assay. Splenocytes from immunized **mice** were harvested at specific time points and assayed for cell surface and intracellular markers. On day 10 postvaccination, animals were challenged with EG.7-OVA murine thymoma cells. Tumor size and appearance were recorded. Vaccination with F2 gel/peptide (either OVA or ESOVA) resulted in a primary T-cell response (up to 25% tumor cell-specific lysis) and no tumor growth in 69% of the **mice**. By 48 h, the proportion of splenic T cells had increased 4-fold compared with B cells. Presence of an increased Th1 CD4 helper population was demonstrated by IFN-γ production CD4 cells were activated at 24 and 48 h as shown by IL-2 receptor α chain expression (from 2% basal expression to 15.4% at 48 h). Activated splenic macrophages increased from 3 to 8% within 10 h, and their level of B7-2 expression doubled. Depletion of macrophages before vaccine injection abolished any tumor-specific primary CTL response. F2 gel/peptide tumor vaccine can prime the immune system in an antigen-specific manner by generating a measurable primary T-cell response with minimal peptide; this process involves macrophage presence and activation as well as induction of Th1 CD4 cells. This is the first demonstration of a primary CTL response generated with minimal peptide vaccination using a noninfectious delivery system. These results justify addnl. studies to better define the mechanisms involved in F2 gel/peptide vaccination in preparation for clin. trials.

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:44988 HCAPLUS
DOCUMENT NUMBER: 130:115023

TITLE: Methods and compositions for **poly**-β- **1.fwdarw.4-n**-**acetylglucosamine** cell therapy system

INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, USA

SOURCE: U.S., 94 pp., Cont.-in-part of U.S. 5,623,064.

CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5858350	A	19990112	US 1995-471290	19950606
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201
US 5623064	A	19970422	US 1994-347911	19941201
WO 9639122	A1	19961212	WO 1996-US5257	19960604
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9659178	A1	19961224	AU 1996-59178	19960604
US 6063911	A	20000516	US 1998-218288	19981222
US 2001055807	A1	20011227	US 2001-866827	20010529
US 6610668	B2	20030826		
US 2002091101	A1	20020711	US 2001-5142	20011205
US 6630459	B2	20031007		
US 2002098579	A1	20020725	US 2001-5139	20011205
US 6599720	B2	20030729		
US 2002106792	A1	20020808	US 2001-5130	20011205
US 6649599	B2	20031118		
US 2003212040	A1	20031113	US 2003-386893	20030312

PRIORITY APPLN. INFO.:

US 1993-160569 A2 19931201
US 1994-347911 A2 19941201
CA 1994-2177823 A3 19941201
US 1995-470077 A1 19950606
US 1995-470083 A1 19950606
US 1995-470912 A1 19950606
US 1995-471290 A1 19950606
US 1995-471545 A1 19950606
WO 1996-US5257 W 19960604
US 1999-227840 B1 19990111
US 2001-866827 A1 20010529

AB The present invention relates to a **purified**, easily produced **poly**-β- 1.fwdarw.4-**N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β-1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. In addition, derivs. and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources. Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc** . Addnl., the present invention relates to the uses of **pure** **p-GlcNAc**, its derivs., and/or its reformulations.

Searcher : Shears 308-4994

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:788736 HCAPLUS
DOCUMENT NUMBER: 130:57168
TITLE: Methods and compositions for **poly** -β-(**1**.fwdarw.**4**)-**N-acetylglucosamine** drug delivery
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 347,911.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5846952	A	19981208	US 1995-470077	19950606
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201
US 5623064	A	19970422	US 1994-347911	19941201
WO 9639122	A1	19961212	WO 1996-US5257	19960604

W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9659178	A1	19961224	AU 1996-59178	19960604

PRIORITY APPLN. INFO.:

US 1993-160569	A2	19931201
US 1994-347911	A2	19941201
CA 1994-2177823	A3	19941201
US 1995-470077	A1	19950606
US 1995-470083	A1	19950606
US 1995-470912	A1	19950606
US 1995-471290	A1	19950606
US 1995-471545	A1	19950606
WO 1996-US5257	W	19960604

AB The present invention relates to a **purified**, easily produced **poly-β- 1**.fwdarw.**4-N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species useful in drug compns. The **p-GlcNAc** of the invention is a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. In addition, derivs. and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources.

Searcher : Shears 308-4994

Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc**. Addnl., the present invention relates to the uses of **pure p-GlcNAc**, its derivs., and/or its reformulations.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:313322 HCAPLUS
DOCUMENT NUMBER: 129:27452
TITLE: Chitin but not chitosan supplementation enhances growth of grass shrimp, Penaeus monodon
AUTHOR(S): Shiau, Shi-Yen; Yu, Yi-Ping
CORPORATE SOURCE: Department of Marine Food Science, National Taiwan Ocean University, Chi-lung, 202, Taiwan
SOURCE: Journal of Nutrition (1998), 128(5), 908-912
CODEN: JONUAI; ISSN: 0022-3166
PUBLISHER: American Society for Nutritional Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of chitin, **poly-β-(1 → 4)-N-acetyl-glucosamine**, and chitosan, a polymer of glucosamine obtained by the **deacetylation** of chitin, on growth and nutrient digestibility was studied in grass shrimp, Penaeus monodon. Shrimp were fed for 8 wk diets containing no supplement (control) or 2, 5 or 10 g/100 g chitin or chitosan. Each diet was fed to triplicate groups of shrimp with a mean initial body weight of 0.45 ± 0.05 g. Significantly higher body weight gains were observed in shrimp fed the 5% chitin diet than in those fed the 10% chitin or the control diet. The weight gain of shrimp decreased as the dietary chitosan supplementation level increased ($r = 0.87$, $P < 0.05$). Feed efficiencies (FE) and protein efficiency ratios (PER) followed the same pattern. Lower protein and lipid digestibilities and lower body protein and lipid contents were observed in shrimp fed all chitosan-containing diets than in controls ($P < 0.05$). Carbohydrate digestibility was lower in shrimp fed the 10% chitosan diet than in those fed the control diet. Lower protein and lipid digestibilities, body lipid content and blood cholesterol concentration were observed in shrimp fed the 10% chitin diet compared with controls ($P < 0.05$). Higher weight gains, body lipid contents and blood cholesterol concns. were observed in shrimp fed the 2 and 5% chitin diets than in those fed the chitosan diets. Shrimp fed the 5% chitin diet had higher protein and lipid digestibilities and higher body protein content than those fed the 5% chitosan diet ($P < 0.05$). These data suggest that dietary chitin, supplemented at 5%, enhances P. monodon growth, whereas chitosan depresses shrimp growth, regardless of the supplementation level.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:735847 HCAPLUS
DOCUMENT NUMBER: 128:26915
TITLE: **Poly-β- 1.fwdarw. 4-N-acetylglucosamine**

Searcher : Shears 308-4994

copolymer composition with collagen
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: U.S., 96 pp., Cont.-in-part of U.S. 5,623,064.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5686115	A	19971111	US 1995-470912	19950606
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201
US 5623064	A	19970422	US 1994-347911	19941201
WO 9639122	A1	19961212	WO 1996-US5257	19960604

W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9659178	A1	19961224	AU 1996-59178	19960604

PRIORITY APPLN. INFO.:

US 1993-160569	A2	19931201
US 1994-347911	A2	19941201
CA 1994-2177823	A3	19941201
US 1995-470077	A1	19950606
US 1995-470083	A1	19950606
US 1995-470912	A1	19950606
US 1995-471290	A1	19950606
US 1995-471545	A1	19950606
WO 1996-US5257	W	19960604

AB The present invention relates to a **purified**, easily produced **poly**-β- **1**.fwdarw.**4**-**N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species useful in collagen copolymers. The **p-GlcNAc** is a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β-1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. Methods for the **purification** of the **p-GlcNAc** from microalgae starting sources and derivs. and pharmaceutical formulations of **p-GlcNAc** are described. Methods for the derivatization and reformulation of the **p-GlcNAc** are also given. Thus, **p-GlcNAc** was isolated from Thalassiosira fluviatilis and **purified** by treatment with HF. The **p-GlcNAc** was mixed with collagen to form a crosslinked polymer.

L5 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:427214 HCAPLUS
DOCUMENT NUMBER: 127:99649
TITLE: Characterization of a sustained-release delivery system for combined cytokine/peptide vaccination using a poly-N-acetyl glucosamine-based polymer

matrix

AUTHOR(S): Cole, David J.; Gattoni-Celli, Sebastiano; Mcclay, Edward F.; Metcalf, John S.; Brown, Jason M.; Nabavi, Nasrin; Newton, Danforth A.; Woolhiser, Cynthia B.; Wilson, Michael C.; Vournakis, John N.

CORPORATE SOURCE: Department of Surgery, Medical University of South Carolina, Charleston, SC, 29425, USA

SOURCE: Clinical Cancer Research (1997), 3(6), 867-873
CODEN: CCREF4; ISSN: 1078-0432

PUBLISHER: American Association for Cancer Research

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Identification of tumor-associated antigens (TAAs) and their class I MHC-restricted epitopes now allows for the rational design of peptide-based cancer vaccines. A biocompatible system capable of sustained release of biol. relevant levels of cytokine and TAA peptide could provide a more effective microenvironment for antigen presentation. Our goal was to test a sustained-release cytokine/TAA peptide-based formulation using a highly **purified** polysaccharide [poly-N-acetylglucosamine (**p-GlcNAc**)] polymer. Granulocyte-macrophage colony-stimulating factor (GM-CSF; 100 μg) and MART-1(27-35) peptide (128 μg in DMSO) were formulated into **p-GlcNAc**. Peptide release was assayed in vitro using interleukin 2 production from previously characterized MART-1(27-35)-specific Jurkat T cells (JRT22). GM-CSF release was assayed via ELISA and proliferation of M-07e (GM-CSF-dependent) cells. Local bioavailability of MART-1(27-35) peptide for uptake and presentation by antigen-presenting cells was demonstrated for up to 6 days (>0.5 μg/mL). More than 1.0 μg/mL GM-CSF was concomitantly released over the same period. Biocompatibility and local tissue response to **p-GlcNAc** releasing murine GM-CSF was determined in C57BL/6 **mice** via s.c. injection using murine GM-CSF (0.2 μg/mL) in 200 μl of a 2.5% polymer gel. Significant lymphocytic and eosinophilic infiltration was observed 2-7 days after injection with polymer containing murine GM-CSF. The results of our studies show that this biocompatible system is capable of a sustained concomitant release of biol. active peptide and cytokine into the local microenvironment. These findings support further studies to validate a **p-GlcNAc** delivery system vehicle for a cytokine/TAA peptide-based cancer vaccine.

L5 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1997:375284 HCAPLUS

DOCUMENT NUMBER: 127:86090

TITLE: Methods and compositions for **poly-β-1-4-N-acetylglucosamine**-containing chemotherapeutics

INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike

PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA

SOURCE: U.S., 97 pp., Cont.-in-part of U.S. Ser. No. 347,911.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5635493	A	19970603	US 1995-471545	19950606
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201
US 5623064	A	19970422	US 1994-347911	19941201
WO 9639122	A1	19961212	WO 1996-US5257	19960604

W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9659178	A1	19961224	AU 1996-59178	19960604

PRIORITY APPLN. INFO.:

US 1993-160569	A2	19931201
US 1994-347911	A2	19941201
CA 1994-2177823	A3	19941201
US 1995-470077	A1	19950606
US 1995-470083	A1	19950606
US 1995-470912	A1	19950606
US 1995-471290	A1	19950606
US 1995-471545	A1	19950606
WO 1996-US5257	W	19960604

AB A **purified**, easily produced, high-mol.-weight, highly crystalline **poly-β(1.fwdarw.4)-N-acetylglucosamine** (**p-GlcNAc**, chitin) polysaccharide species of reproducible composition is prepared from carefully controlled, aseptic cultures of marine microalgae, preferably diatoms. The **p-GlcNAc** is free of proteins and substantially free of single amino acids and other organic and inorg. contaminants. The **p-GlcNAc** and its derivs. such as polyglucosamine have therapeutic applications, e.g. in biodegradable drug delivery systems, cell encapsulation, and induction of hemostasis. They may be formulated into membranes, filaments, nonwoven textiles, sponges, gels, and 3-dimensional matrixes, and may find cosmetic and agricultural applications. Thus, covering an abrasion wound with a **p-GlcNAc** membrane promoted wound healing and reduced scar tissue formation. A **p-GlcNAc** membrane impregnated with 5'-FU and implanted on the surface of a colon tumor in vivo in **mice** retarded tumor growth.

L5 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:311216 HCAPLUS
DOCUMENT NUMBER: 127:9113
TITLE: Methods and compositions for **poly -β- 1-4-N-acetylglucosamine** biological barriers
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 347,911.
CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5624679	A	19970429	US 1995-470083	19950606
US 5622834	A	19970422	US 1993-160569	19931201
CA 2372026	AA	19950608	CA 1994-2372026	19941201
US 5623064	A	19970422	US 1994-347911	19941201
WO 9639122	A1	19961212	WO 1996-US5257	19960604

W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9659178	A1	19961224	AU 1996-59178	19960604

PRIORITY APPLN. INFO.:

US 1993-160569	A2	19931201
US 1994-347911	A2	19941201
CA 1994-2177823	A3	19941201
US 1995-470077	A1	19950606
US 1995-470083	A1	19950606
US 1995-470912	A1	19950606
US 1995-471290	A1	19950606
US 1995-471545	A1	19950606
WO 1996-US5257	W	19960604

AB The present invention relates to a **purified**, easily produced **poly**-β- **1**.fwdarw.**4**-**N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β-1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. In addition, derivs. and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources. Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc** . Addnl., the present invention relates to the uses of **pure p-GlcNAc**, its derivs., and/or its reformulations.

L5 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:287194 HCAPLUS
DOCUMENT NUMBER: 126:347274
TITLE: **Purification** of **poly**-β-**1**.fwdarw.**4**-**N-acetylglucosamine** from microalgae for medicinal and cosmetic applications
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: U.S., 89 pp., Cont.-in-part of U.S. Ser. No. 160,569.

Searcher : Shears 308-4994

CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5623064	A	19970422	US 1994-347911	19941201
US 5622834	A	19970422	US 1993-160569	19931201
CA 2177823	AA	19950608	CA 1994-2177823	19941201
CA 2177823	C	20020430		
CA 2372026	AA	19950608	CA 1994-2372026	19941201
CN 1142833	A	19970212	CN 1994-194912	19941201
TW 458987	B	20011011	TW 1994-83111374	19950228
US 5624679	A	19970429	US 1995-470083	19950606
US 5635493	A	19970603	US 1995-471545	19950606
US 5686115	A	19971111	US 1995-470912	19950606
US 5846952	A	19981208	US 1995-470077	19950606
US 5858350	A	19990112	US 1995-471290	19950606
US 6063911	A	20000516	US 1998-218288	19981222
US 2001055807	A1	20011227	US 2001-866827	20010529
US 6610668	B2	20030826		
US 2002091101	A1	20020711	US 2001-5142	20011205
US 6630459	B2	20031007		
US 2002098579	A1	20020725	US 2001-5139	20011205
US 6599720	B2	20030729		
US 2002106792	A1	20020808	US 2001-5130	20011205
US 6649599	B2	20031118		
US 2003212040	A1	20031113	US 2003-386893	20030312

PRIORITY APPLN. INFO.:

US 1993-160569	A2	19931201
CA 1994-2177823	A3	19941201
US 1994-347911	A2	19941201
US 1995-471290	A2	19950606
US 1999-227840	B1	19990111
US 2001-866827	A1	20010529

AB The present invention relates to a **purified**, easily produced **poly**-β- **1**.fwdarw.**4**-**N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high mol. weight whose constituent monosaccharide sugars are attached in a β-1→4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. In addition, derivs. and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatoms, as starting sources. Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc** . Addnl., the present invention relates to the uses of **pure** **p-GlcNAc**, its derivs., and/or its reformulations.

L5 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:101671 HCAPLUS
DOCUMENT NUMBER: 126:108902
TITLE: **Poly**-β- **1**.fwdarw.
4-N-acetylglucosamine

INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: PCT Int. Appl., 204 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9639122	A1	19961212	WO 1996-US5257	19960604
W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5624679	A	19970429	US 1995-470083	19950606
US 5635493	A	19970603	US 1995-471545	19950606
US 5686115	A	19971111	US 1995-470912	19950606
US 5846952	A	19981208	US 1995-470077	19950606
US 5858350	A	19990112	US 1995-471290	19950606
AU 9659178	A1	19961224	AU 1996-59178	19960604

PRIORITY APPLN. INFO.:

US 1995-470077	A1	19950606
US 1995-470083	A1	19950606
US 1995-470912	A1	19950606
US 1995-471290	A1	19950606
US 1995-471545	A1	19950606
US 1993-160569	A2	19931201
US 1994-347911	A2	19941201
WO 1996-US5257	W	19960604

AB A method of producing and **purifying poly-β-1.fwdarw.4-N-acetylglucosamine** (**p-GlcNAc**) polysaccharide species and their derivs. is described. The polysaccharides produced by this method are free of proteins, and substantially free of single amino acids, and other organic and inorg. contaminants. These **p-GlcNAc** polysaccharides may be used com. by the biomedical, pharmaceutical, and cosmetic industries in slow drug delivery systems, cell encapsulation systems, and treatments, for would healing and for the prevention of post-surgical adhesions. The figure shows the chemical structure of 100% **p-GlcNAc** , wherein "n" is an integer from about 4000 to about 150,000.

L5 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:879070 HCAPLUS
DOCUMENT NUMBER: 123:260251
TITLE: Preparation of microalgal **poly**(β-**1.fwdarw.4-N-acetylglucosamine**) and its uses
INVENTOR(S): Vournakis, John N.; Finkielsztein, Sergio; Pariser, Ernest R.; Helton, Mike
PATENT ASSIGNEE(S): Marine Polymer Technologies, Inc., USA
SOURCE: PCT Int. Appl., 197 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9515343	A1	19950608	WO 1994-US13706	19941201
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KE, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5622834	A	19970422	US 1993-160569	19931201
CA 2177823	AA	19950608	CA 1994-2177823	19941201
CA 2177823	C	20020430		
CA 2372026	AA	19950608	CA 1994-2372026	19941201
AU 9512969	A1	19950619	AU 1995-12969	19941201
AU 695850	B2	19980827		
EP 731812	A1	19960918	EP 1995-904174	19941201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1142833	A	19970212	CN 1994-194912	19941201
JP 09506126	T2	19970617	JP 1994-515721	19941201
TW 458987	B	20011011	TW 1994-83111374	19950228

PRIORITY APPLN. INFO.: US 1993-160569 A 19931201
CA 1994-2177823 A3 19941201
WO 1994-US13706 W 19941201

AB The title mucopolysaccharide has mol. weight of 800,000-30,000,000 Daltons and d.p. of 4000-150,000, and is isolated from microalgae, preferably diatom, which are cell culture cultivated, and **purified**. Claimed also are derivs. of the **poly** (β- **1**.fwdarw.**4**-**N**-**acetylglucosamine**) and their reformulated products such as filaments, mats, textiles, sponges and 3-dimensional matrixes, etc.

L5 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:354100 HCAPLUS
DOCUMENT NUMBER: 122:259705
TITLE: A family of UDP-GlcNAc/MurNAc:polyisoprenol-**P GlcNAc**/MurNAc-1-P transferases
AUTHOR(S): Lehrmann, Mark A.
CORPORATE SOURCE: Department of Pharmacology, University of Texas Southwestern Medical Center, Dallas, TX, USA
SOURCE: Glycobiology (1994), 4(6), 768-71
CODEN: GLYCE3; ISSN: 0959-6658
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Sequence homologies of the title enzymes are examined for enzymes derived from humans, hamsters, **rabbits**, **rats**, yeast, and Bacillus subtilis, as well as Escherichia coli mraY and rfe proteins. Six presumptive functional domains are identified and compared; these sequences may be involved in the formation of pyrophosphate bonds and/or binding of substrate.

L5 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:407211 HCAPLUS
DOCUMENT NUMBER: 121:7211
TITLE: Induction of dolichyl-saccharide intermediate biosynthesis corresponds to increased long chain cis-isoprenyltransferase activity during the mitogenic response in **mouse** B cells
AUTHOR(S): Crick, Dean C.; Scocca, Jane R.; Rush, Jeffrey S.; Frank, David W.; Krag, Sharon S.; Waechter, Charles J.
CORPORATE SOURCE: Coll. Med., Univ. Kentucky, Lexington, KY, 40536, USA
SOURCE: Journal of Biological Chemistry (1994), 269(14), 10559-65
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB There are large increases in the rates of Glc3-Man9GlcNAc2-P-P-Dol (Oligo-P-P-Dol) biosynthesis and protein N-glycosylation during the proliferative response of murine B lymphocytes (B cells) to bacterial lipopolysaccharide (LPS). To learn more about the regulation of dolichyl-saccharide biosynthesis, the possible relationships between developmental changes in specific steps in dolichyl phosphate (Dol-P) and N-acetylglycosaminylpyrophosphoryldol ichol (GlcNac-P-P-Dol) biosynthesis and the induction of Oligo-O-P-Dol biosynthesis were investigated. These studies describe an impressive induction of long chain cis-isoprenyltransferase (cis-IPTase) activity, an enzyme system required for the chain elongation stage in de novo Dol-P synthesis, which corresponded to the striking increase in the rate of Oligo-P-P-Dol biosynthesis in LPS-activated B cells. The cellular level and specific activity of cis-IPTase increased 15-fold in LPS-treated cells with relatively unaltered affinity for isoprentenyl pyrophosphate. The rates of Dol-P and Oligo-P-P-Dol synthesis increased substantially when cis-IPTase activity was induced, suggesting a regulatory relationship between the level of cis-IPTase activity and lipid intermediate synthesis. Distinctly different developmental patterns were obsd for cis-IPTase and HMG-CoA reductase activity, and when sterol biosynthesis was drastically inhibited by lovastatin, the rate of synthesis of Dol-P was slightly higher in the presence of the drug. Modest elevations in the cellular levels of dolichol kinase, Dol-P phosphatase, and UDP-GlcNAc:Dol-P N-acetylglucosaminylphosphoryltransferase (L-G1PT) activities were also observed, but these changes were relatively small compared with the increases in cis-IPTase activity and the rates of Dol-**P**, **GlcNac**-P-P-Dol, and Oligo-P-P-Dol synthesis. The expression of the L-G1PT gene is an early event in the developmental program for Oligo-P-P-Dol synthesis, but GlcNAc-P-P-Dol formation is apparently not rate-limiting. In summary, large increases in cis-IPTase activity and the rate of Dol-P biosynthesis appear to play a key regulatory role in the induction of Oligo-P-P-Dol biosynthesis during the proliferative response of B cells to LPS, and the biosynthetic pathways for Dol-P and cholesterol are regulated independently in diving B cells.

L5 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:547362 HCAPLUS
DOCUMENT NUMBER: 113:147362

TITLE: Topography of initiation of N-glycosylation reactions
AUTHOR(S): Abeijon, Claudia; Hirschberg, Carlos B.
CORPORATE SOURCE: Med. Cent., Univ. Massachusetts, Worcester, MA, 01655, USA
SOURCE: Journal of Biological Chemistry (1990), 265(24), 14691-5
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Previous studies on the topog. of the reactions leading to the formation of dolichol-P-P-Glc-NAc2Man9Glc3 have shown that these occur on both sides of the endoplasmic reticulum membrane (Hirschberg, C. B.; Snider, M. D., 1987). Dolichol-P-P-GlcNAc2Man5 has been detected on the cytoplasmic side of the endoplasmic reticulum membrane while the subsequent dolichol-oligosaccharide intermediates face the lumen. Less clear is the side of the membrane where dolichol-P-P-GlcNAc2 is assembled. Evidence is now present strongly suggesting that the active sites of the enzymes catalyzing the synthesis of this latter intermediate are on the cytoplasmic side of the endoplasmic reticulum membrane. In addition, dolichol-P-P-GlcNAc2 has also been detected on this side. Incubations of sealed, right-side-out **rat** liver endoplasmic reticulum-derived vesicles with [β-32P]UDP-GlcNAc in the presence of 5-Br-UMP resulted in the formation of radiolabeled dolichol-P-**P-GlcNAc** and dolichol-P-P-GlcNAc2 under conditions where there was complete inhibition of transport of the nucleotide sugar. In other expts. with the above radiolabeled nucleotide sugar and sealed vesicles, it was demonstrated that EDTA (a membrane-impermeable reagent) inhibited the N-acetylglucosamine-1-phosphate transferase under conditions where transport of the nucleotide sugar into the lumen was unaffected. Finally, sealed vesicles were first incubated with [32P]UDP-GlcNAc and subsequently with UDP-Gal and soluble galactosyltransferase. This resulted in galactosylation of dolichol-P-P-GlcNAc2. The above results, together with the previous observations, strongly suggest that all reactions leading to this latter dolichol intermediate occur on the cytosolic side of the endoplasmic reticulum membrane.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, CANCERLIT' ENTERED AT 11:21:02 ON 12 DEC 2003)
L6 61 S L5
L7 36 DUP REM L6 (25 DUPLICATES REMOVED)

L7 ANSWER 1 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:519826 BIOSIS
DOCUMENT NUMBER: PREV200300522828
TITLE: Pharmaceutical compositions comprising poly-beta-1fwdarw4-N-acetylglucosamine.
AUTHOR(S): Vournakis, John N. [Inventor, Reprint Author]; Finkielsztein, Sergio [Inventor]; Pariser, Ernest R. [Inventor]; Helton, Mike [Inventor]
CORPORATE SOURCE: ASSIGNEE: Marine Polymers Technologies
PATENT INFORMATION: US 6630459 October 07, 2003
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Oct 7 2003) Vol. 1275, No.

Searcher : Shears 308-4994

1. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Nov 2003
Last Updated on STN: 5 Nov 2003

AB The present invention relates to a **purified**, easily produced poly-beta-1fwdarw4-N-acetylglucosamine (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high molecular weight whose constituent monosaccharide sugars are attached in a beta-1fwdarw4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorganic contaminants. In addition, derivatives and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources. Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc**. Additionally, the present invention relates to the uses of **pure p-GlcNAc**, its derivatives, and/or its reformulations.

L7 ANSWER 2 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:436029 BIOSIS
DOCUMENT NUMBER: PREV200300436029
TITLE: Methods and compositions for poly-beta-1fwdarw4-N-acetylglucosamine cell therapy system.
AUTHOR(S): Vournakis, John N. [Inventor, Reprint Author]; Finkielsztein, Sergio [Inventor]; Pariser, Ernest R. [Inventor]; Helton, Mike [Inventor]
CORPORATE SOURCE: ASSIGNEE: Marine Polymers Technologies, Danvers, MA, USA
PATENT INFORMATION: US 6610668 August 26, 2003
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Aug. 26, 2003) Vol. 1273, No. 4. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 17 Sep 2003
Last Updated on STN: 17 Sep 2003

AB The present invention relates to a **purified**, easily produced poly-beta-1fwdarw4-N-acetylglucosamine (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high molecular weight whose constituent monosaccharide sugars are attached in a beta-1fwdarw4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorganic contaminants. In addition, derivatives and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources. Still further, the

invention relates to methods for the derivatization and reformulation of the **p-GlcNAc**. Additionally, the present invention relates to the uses of **pure p-GlcNAc**, its derivatives, and/or its reformulations.

L7 ANSWER 3 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 2003:389861 BIOSIS
DOCUMENT NUMBER: PREV200300389861
TITLE: Methods for making poly-beta-1fwdarw4-N-acetylglucosamine.
AUTHOR(S): Vournakis, John N. [Inventor, Reprint Author]; Finkielsztein, Sergio [Inventor]; Pariser, Ernest R. [Inventor]; Helton, Mike [Inventor]
CORPORATE SOURCE: Memphis, TN, USA
ASSIGNEE: Marine Polymer Technologies, Danvers, MA, USA
PATENT INFORMATION: US 6599720 July 29, 2003
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (July 29, 2003) Vol. 1272, No. 5. http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133 (ISSN print).
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 20 Aug 2003
Last Updated on STN: 20 Aug 2003

AB The present invention relates to a **purified**, easily produced poly-beta-1fwdarw4-N-acetylglucosamine (**p-GlcNAc**) polysaccharide species. The **p-GlcNAc** of the invention is a polymer of high molecular weight whose constituent monosaccharide sugars are attached in a beta-1fwdarw4 conformation, and which is free of proteins, and substantially free of single amino acids, and other organic and inorganic contaminants. In addition, derivatives and reformulations of **p-GlcNAc** are described. The present invention further relates to methods for the **purification** of the **p-GlcNAc** of the invention from microalgae, preferably diatom, starting sources. Still further, the invention relates to methods for the derivatization and reformulation of the **p-GlcNAc**. Additionally, the present invention relates to the uses of **pure p-GlcNAc**, its derivatives, and/or its reformulations.

L7 ANSWER 4 OF 36 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

ACCESSION NUMBER: 2003:632178 SCISEARCH
THE GENUINE ARTICLE: 701ER
TITLE: Polymerization of mycobacterial arabinogalactan and ligation to peptidoglycan
AUTHOR: Yagi T; Mahapatra S; Mikusova K; Crick D C; Brennan P J (Reprint)
CORPORATE SOURCE: Colorado State Univ, dept Microbiol Immunol & Pathol, Ft Collins, CO 80523 USA (Reprint)
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (18 JUL 2003) Vol. 278, No. 29, pp. 26497-26504.

Searcher : Shears 308-4994

Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3996 USA.
ISSN: 0021-9258.
DOCUMENT TYPE: Article; Journal
LANGUAGE: English
REFERENCE COUNT: 38

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The cell wall of Mycobacterium spp. consists predominately of arabinogalactan chains linked at the reducing ends to peptidoglycan via a **P-GlcNAc**-(alpha1-3)-Rha linkage unit (LU) and esterified to a variety of mycolic acids at the nonreducing ends. Several aspects of the biosynthesis of this complex have been defined, including the initial formation of the LU on a polyprenyl phosphate (Pol-P) molecule followed by the sequential addition of galactofuranosyl (Galf) units to generate Pol-P-P-LU-(Galf)(1,2,3, etc.) and Pol-P-P-LU- galactan, catalyzed by a bifunctional galactosyltransferase (Rv3808c) capable of adding alternating 5- and 6-linked Galf units. By applying cell-free extracts of Mycobacterium smegmatis, containing cell wall and membrane fragments, and differential labeling with UDP-[C-14]Galp and recombinant UDP- Galp mutase as the source of [C-14] Galf for galactan biosynthesis and 5-P-[C-14]ribosyl-P-P as a donor of [C-14]Araf for arabinan synthesis, we now demonstrate sequential synthesis of the simpler Pol-P-P-LU-(Galf)(n)-glycolipid intermediates followed by the Pol-P-P-LU- arabinogalactan and, finally, ligation of the P-LU-arabinogalactan to peptidoglycan. This first time demonstration of in vitro ligation of newly synthesized P-LU-arabinogalactan to newly synthesized peptidoglycan is a necessary forerunner to defining the genetics and enzymology of cell wall polymer-peptidoglycan ligation in Mycobacterium spp. and examining this step as a target for new antibacterial drugs.

L7 ANSWER 5 OF 36 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN

ACCESSION NUMBER: 2002-691578 [74] WPIDS
DOC. NO. CPI: C2002-195425

TITLE: Biodegradable, non-barrier-forming material useful in the treatment of vascular disorder e.g. cerebral aneurysm comprises semi-crystalline poly-beta-1-4N-acetylglucosamine polymers.

DERWENT CLASS: A11 A96 B04

INVENTOR(S): FINKIELSZTEIN, S; VOURNAKIS, J N; FINKEILSZTEIN, S
PATENT ASSIGNEE(S): (MARI-N) MARINE POLYMER TECHNOLOGIES INC

COUNTRY COUNT: 101
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002063961	A1	20020822	(200274)*	EN	118
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW					
US 2003078234	A1	20030424	(200330)		
EP 1365651	A1	20031203	(200380)	EN	

Searcher : Shears 308-4994

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2002063961	A1		WO 2002-US3792	20020208
US 2003078234	A1	Cont of	US 2001-781182	20010212
			US 2002-194740	20020712
EP 1365651	A1		EP 2002-740104	20020208
			WO 2002-US3792	20020208

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1365651	A1	Based on	WO 2002063961

PRIORITY APPLN. INFO: US 2001-781182 20010212; US 2002-194740 20020712

AN 2002-691578 [74] WPIDS

AB WO 200263961 A UPAB: 20021118

NOVELTY - A biodegradable, non-barrier-forming material (A) comprises semi-crystalline poly- beta -1-4N-acetylglucosamine (**p-GlcNAc**) polymers containing N-acetylglucosamine monosaccharide (50 - 150000) covalently attached in a beta -1-4-conformation. The semi-crystalline **p-GlcNAc** polymers are free of protein and free of other organic and inorganic contaminants and have a molecular weight of 10000 daltons - 30 million daltons.

DETAILED DESCRIPTION - A biodegradable, non-barrier-forming material (A) comprises semi-crystalline poly- beta -1-4N-acetylglucosamine (**p-GlcNAc**) polymers containing N-acetylglucosamine monosaccharide (50 - 150000) covalently attached in a beta -1-4-conformation. The semi-crystalline **p-GlcNAc** polymers are free of protein and free of other organic and inorganic contaminants and have a molecular weight of 10000 daltons - 30 million daltons. Where administration induces at least one transient, localized physiological response selected from endotheli-1- release, vasoconstrction, and reduction on blood flow out of a breached vessel.

ACTIVITY - Cytostatic.

MECHANISM OF ACTION - Endothelin-1 release stimulator.

Male Sprague-Dawley **rats** were anesthetized and aorta and SMA were rapidly removed and suspended in a warmed Krebs-Henseleit (KH) buffer containing (mmol/l) sodium chloride (118), potassium chloride (4.75), calcium chloride.2H2O (2.54), potassium hydrogen phopsphate (1.19), magnessium sulfate.7H2O (1.19), sodium hydrogen carbonate (12.5) and glucose (10). Isolated vessels were cut into rings and suspended in tissue bath (10 ml) and connected to FT-03 force displacement transducers to record force. The baths were filled with KH buffer and aerated at 37 deg. C with 95% oxygen + 5% carbon dioxide. A resting force of 0.5 g was applied to SMA rings, equilibrated for 90 minutes and the resting force of the vascular rings was adjusted until 0.5 g of pre-load was maintained. The rings were exposed to U-46619 (9,11-dideoxy-9 alpha

-11 alpha -methaneepoxy-prostagalandin F2 approx. a), a thromboxane A2 mimetic to generate 1 g of developed force. Then acetylcholine (endothelium-dependent vasodilator) was added to the bath to assess the integrity of endothelium. The procedure was repeated with U-46619 followed by fully acetylated, semi-crystalline **p-GlcNAc** (I). It was observed that (I) produced a concentration-dependent vasoconstriction of 14 - 140 g/ml. At a developed concentration of 140 g/ml, (I) contracted aorta rings by 218 plus or minus 211 mg of developed force (p less than 0.01). De-endothelialized aorta rings were contracted by only 33 plus or minus 12 mg of developed force.

USE - For the treatment the vascular disorder in human e.g. menorrhagia, cerebral aneurysm, abdominal aneurysm, uterine fibroid lesion and blood vessel puncture; for achieving transient, localized, modulation of vascular structure (preferably a breached blood vessel selected from capillary, vein and artery)(all claimed).

ADVANTAGE - (A) is biocompatible, biodegradable, non-toxic and non-pyrogenic. (A) induces stimulation of endothelin-1 released from vascular endothelial cells, vasoconstriction, and reduction in blood flow out of a breached vessel. The **p-GlcNac** exhibits a low percentage of bound water.

Dwg.0/24

L7 ANSWER 6 OF 36 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2003081825 MEDLINE
DOCUMENT NUMBER: 22481134 PubMed ID: 12592703
TITLE: Genomic structure of the human UDP-GlcNAc:dolichol-**P GlcNAc**-1-P transferase gene.
AUTHOR: Regis Stefano; Dagnino Fabio; Caroli Francesco; Filocamo Mirella
CORPORATE SOURCE: Laboratorio di Diagnosi Pre e Postnatale di Malatie Metaboliche, Istituto G. Gaslini-Largo G. Gaslini 5, 16147 Genova, Italy.. dppm@ospedale-gaslini.ge.it
SOURCE: DNA SEQUENCE, (2002 Oct) 13 (5) 245-50. Journal code: 9107800. ISSN: 1042-5179.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200304
ENTRY DATE: Entered STN: 20030221
Last Updated on STN: 20030501
Entered Medline: 20030430

AB The UDP-GlcNAc:dolichol-**P GlcNAc**-1-P transferase catalyzes the first and committed step in the dolichol cycle, thus playing a fundamental role in the pathway for protein N-glycosylation. The structure of the GlcNAc-1-P transferase gene has been previously elucidated in **mouse** and hamster. Moreover, the human cDNA has been cloned. Using sequence database tools, we deduced the genomic structure of the human GlcNAc-1-P transferase gene, which was experimentally confirmed by sequence analysis. The gene is composed of 9 exons and spans 5.5 kb. All splice acceptor and donor sites conform to the canonical AG/GT rule. The 5'-end of the gene is different from previously reported, as, consequently, the N-terminal of the encoded protein, which is predicted to be 408 amino acids long. The transcription start site, determined by 5' RACE, occurs 180 nucleotides upstream of the translation initiation codon. Several potential transcription

regulatory motifs, such as Sp-1, E4TF1 and ATF binding sites, were identified in the 5'-flanking region. A polyadenylation signal is located 466 bp downstream of the stop codon. The genomic organization of the gene is similar to that of the corresponding **mouse** and hamster genes, though extensive homology is restricted to the coding regions. Analysis of a panel of radiation hybrids led to the assignment of the GlcNAc-1-P transferase gene to chromosome 11, at 4.19 cR from NIB361, according to the location of the homologous sequences in the database at 11q23.

L7 ANSWER 7 OF 36 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2002098424 MEDLINE
DOCUMENT NUMBER: 21655424 PubMed ID: 11796021
TITLE: Vascular effects of poly-N-acetylglucosamine in isolated **rat** aortic rings.
AUTHOR: Ikeda Yasuhiko; Young Lindon H; Vournakis John N; Lefer Allan M
CORPORATE SOURCE: Department of Physiology, Thomas Jefferson University, Philadelphia, Pennsylvania 19107, USA.
CONTRACT NUMBER: HL-07599 (NHLBI)
SOURCE: JOURNAL OF SURGICAL RESEARCH, (2002 Feb) 102 (2) 215-20.
Journal code: 0376340. ISSN: 0022-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20020207
Last Updated on STN: 20020222
Entered Medline: 20020221

AB BAACKGROUND: Poly-N-acetylglucosamine (**p-GlcNAc**) is a secretion of marine diatoms that is known to be useful in controlling bleeding. As a component of promoting hemostasis, **p-GlcNAc** is thought to exert vasoconstrictor effects in arteries. The present study was undertaken to determine whether **p-GlcNAc** induced a significant vasoconstrictor effect and, if so, what the mechanism of this effect might be. MATERIALS AND METHODS: We examined vascular effects of **p-GlcNAc** on isolated aortic rings obtained from Sprague-Dawley **rats**. The rings were suspended in organ baths and precontracted with U46619, a thromboxane A2 mimetic. RESULTS: **p-GlcNAc** produced a concentration-dependent vasoconstriction over the range of 14 to 100 microg/ml. At a concentration of 100 microg/ml, **p-GlcNAc** significantly contracted aortic rings by 133 +/- 20 mg of developed force (P < 0.01). Neither a **deacetylated** derivative of **p-GlcNAc** nor a structurally related macromolecule, chitin, contracted **rat** aortic rings, indicating a specificity for **p-GlcNAc**. The vasoconstriction to **p-GlcNAc** was totally abolished in deendothelialized **rat** aortic rings, suggesting that an endothelial component is essential to the vasoconstriction. Pretreatment with the endothelin ET(A) receptor antagonist, JKC-301 (0.5 and 1 microM), significantly diminished **p-GlcNAc**-induced vasoconstriction by 57 to 61% (P < 0.01). However, **p-GlcNAc** did not significantly diminish nitric oxide release from **rat**

aortic endothelium. CONCLUSION: These results provide evidence that **p-GlcNAc** significantly contracts isolated **rat** aortic rings via an endothelium-dependent mechanism, partly via enhancement of endothelin-1 release from endothelial cells.

L7 ANSWER 8 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 2001:264233 BIOSIS
DOCUMENT NUMBER: PREV200100264233
TITLE: Vascular effects of poly-N-acetylglucosamine in isolated **rat** aortic rings.
AUTHOR(S): Ikeda, Yasuhiko [Reprint author]; Vournakis, John N.; Lefer, Allan M. [Reprint author]
CORPORATE SOURCE: Thomas Jefferson University, 1020 Locust Street, Philadelphia, PA, 19107-6799, USA
SOURCE: FASEB Journal, (March 8, 2001) Vol. 15, No. 5, pp. A1126. print.
Meeting Info.: Annual Meeting of the Federation of American Societies for Experimental Biology on Experimental Biology 2001. Orlando, Florida, USA. March 31-April 04, 2001.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 30 May 2001
Last Updated on STN: 19 Feb 2002

AB Poly-N-acetylglucosamine (**p-GlcNAc**) is a secretion of marine diatoms that is known to be useful in controlling surgical bleeding. In addition to promoting hemostasis, **p-GlcNAc** is thought to exert vasoconstrictor effects in arteries. The present study was undertaken to determine whether **p-GlcNAc** induced an endothelium-dependent vasoconstriction, and if so, what the mechanism of this effect might be. We examined vascular effects of **p-GlcNAc** on aortic rings obtained from Sprague-Dawley **rats**. The rings were suspended in organ baths and pre-contracted with U46619 to generate approximately 1 g of developed force. Once a stable contraction was obtained, 0.1, 1, 10, and 100 nM acetylcholine, a typical endothelium-dependent vasodilator, was added to the bath to assess the integrity of endothelium **p-GlcNAc** produced a concentration-dependent vasocontraction from 14 to 140 mug/ml. At a concentration of 140 mug/ml, **p-GlcNAc** significantly contracted aortic rings by 218 +- 21 mg of developed force ($p<0.01$). De-endothelialized aortic rings were contracted by only 33 +- 12 mg of developed force. Pretreatment with an endothelin ETA receptor antagonist, JKC-301 (0.5 and 1 muM), significantly diminished **p-GlcNAc** -induced vasoconstriction by 57 to 61% ($p<0.01$). These results provide evidence that **p-GlcNAc** significantly contracts isolated **rat** aortic rings via an endothelium-dependent mechanism, partly via enhancement of endothelin-1 release from endothelial cells.

L7 ANSWER 9 OF 36 MEDLINE on STN DUPLICATE 3

ACCESSION NUMBER: 2001644261 MEDLINE
DOCUMENT NUMBER: 21553286 PubMed ID: 11696697
TITLE: Sustained release of granulocyte-macrophage colony-stimulating factor from a modular peptide-based cancer vaccine alters vaccine microenvironment and enhances the antigen-specific T-cell response.
AUTHOR: Nguyen C L; Bui J T; Demcheva M; Vournakis J N; Cole D J; Gillanders W E
CORPORATE SOURCE: Department of Surgery, Section of Surgical Oncology, Medical University of South Carolina, Charleston, South Carolina 29425, USA.
CONTRACT NUMBER: 2R29CA67973-0182 (NCI)
SOURCE: JOURNAL OF IMMUNOTHERAPY, (2001 Sep-Oct) 24 (5) 420-9.
Journal code: 9706083. ISSN: 1524-9557.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200201
ENTRY DATE: Entered STN: 20011107
Last Updated on STN: 20020125
Entered Medline: 20020103

AB The recent identification and molecular characterization of tumor antigens provides the opportunity to explore the rational development of peptide-based cancer vaccines. However, the response to these vaccines remains variable, and peptide-based cancer vaccines may even produce tolerance induction and enhanced tumor growth. The authors have developed a unique method for the isolation of a polysaccharide polymer of chemically **pure** poly- N -acetyl glucosamine (**p-GlcNAc**). This highly **purified** polysaccharide can be formulated into a stable gel matrix (designated F2 gel matrix) with unique properties of a sustained-release delivery system that has previously been shown to be an effective immune adjuvant. F2 gel matrix is capable of providing sustained release of antigenic peptide and cytokine in vitro. The purposes of this study were to characterize the ability of F2 gel matrix to provide sustained local release of cytokines in vivo and to test the hypothesis that such sustained release can enhance the microenvironment for antigen presentation, leading to a more effective antitumor response. Subcutaneous administration of F2 gel/cytokine matrix resulted in sustained release of cytokine at the vaccine site for up to 120 hours. Sustained release of granulocyte-macrophage colony-stimulating factor (GM-CSF) was associated with an increased inflammatory infiltrate at the vaccine site and enhanced dendritic cell activation. Further, accination with F2 gel/SIINFEKL/GM-CSF matrix resulted in enhanced antigen-specific immunity. Addition of GM-CSF to the F2 gel matrix resulted in an increase in the percentage of antigen-specific T cells in the draining lymph nodes, enhanced cytotoxicity, a sustained presence of antigen-specific T cells in the peripheral blood, and protection from E.G7 tumor challenge. These results support the potential of an F2 gel matrix modular vaccine delivery system that can provide sustained local release of cytokine in vivo, and confirm the powerful effects of GM-CSF as an immune adjuvant.

L7 ANSWER 10 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on

STN

ACCESSION NUMBER: 2002:288393 BIOSIS
DOCUMENT NUMBER: PREV200200288393
TITLE: Safety of poly-N-acetylglucosamine in the pericardial space: A novel vehicle for local cardiac drug delivery.
AUTHOR(S): Waxman, Sergio [Reprint author]; Sriram, Vissa [Reprint author]; Ashitkov, Taras V. [Reprint author]; Hu, Zhaoyong [Reprint author]; Medford, David J. [Reprint author]; Boor, Paul J. [Reprint author]; Demcheva, Marina; Vournakis, John N.
CORPORATE SOURCE: Univ of Texas Med Branch, Galveston, TX, USA
SOURCE: Circulation, (October 23, 2001) Vol. 104, No. 17 Supplement, pp. II.729. print.
Meeting Info.: Scientific Sessions 2001 of the American Heart Association. Anaheim, California, USA. November 11-14, 2001. American Heart Association.
CODEN: CIRCAZ. ISSN: 0009-7322.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 15 May 2002
Last Updated on STN: 15 May 2002

L7 ANSWER 11 OF 36 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-375540 [32] WPIDS
CROSS REFERENCE: 1995-224100 [29]; 1997-042814 [04]; 1997-244430 [22]
DOC. NO. CPI: C2000-113381
TITLE: Composition for inhibiting tumor growth and neoplastic cells and treating cell proliferative diseases and cancer comprises endothelin antagonist and polymer of N-acetylglucosamine or N-glucosamine.
DERWENT CLASS: B03 B04
INVENTOR(S): FINKIELSZTEIN, S; PARISER, E R; VOURNAKIS, J N
PATENT ASSIGNEE(S): (MARI-N) MARINE POLYMER TECHNOLOGIES INC; (MARI-N) MARINE POLYMERS TECHNOLOGIES INC
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6063911	A	20000516	(200032)*		32
WO 2000036918	A1	20000629	(200036)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 2000025919	A	20000712	(200048)		
NO 2001003071	A	20010820	(200157)		
EP 1139752	A1	20011010	(200167)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CN 1335749	A	20020213	(200233)		
MX 2001006483	A1	20010901	(200239)		

Searcher : Shears 308-4994

JP 2003522732 W 20030729 (200358) 83

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6063911	A	CIP of	US 1993-160569	19931201
		CIP of	US 1994-347911	19941201
		CIP of	US 1995-471290	19950606
			US 1998-218288	19981222
WO 2000036918	A1		WO 1999-US30575	19991221
AU 2000025919	A		AU 2000-25919	19991221
NO 2001003071	A		WO 1999-US30575	19991221
			NO 2001-3071	20010620
EP 1139752	A1		EP 1999-968523	19991221
			WO 1999-US30575	19991221
CN 1335749	A		CN 1999-816315	19991221
MX 2001006483	A1		MX 2001-6483	20010622
JP 2003522732	W		WO 1999-US30575	19991221
			JP 2000-589041	19991221

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 6063911	A	CIP of	US 5622834
		CIP of	US 5623064
		CIP of	US 5858350
AU 2000025919	A	Based on	WO 2000036918
EP 1139752	A1	Based on	WO 2000036918
JP 2003522732	W	Based on	WO 2000036918

PRIORITY APPLN. INFO: US 1998-218288 19981222; US 1993-160569 19931201; US 1994-347911 19941201; US 1995-471290 19950606

AN 2000-375540 [32] WPIDS

CR 1995-224100 [29]; 1997-042814 [04]; 1997-244430 [22]

AB US 6063911 A UPAB: 20030910

NOVELTY - An antitumor composition (I) comprises at least one endothelin antagonist in combination with **poly-** beta -**1-->4-N-acetylglucosamine** (**p-GlcNAc**) or poly- beta -1-->4-glucosamine (p-Glc).

DETAILED DESCRIPTION - An antitumor composition (I) comprises at least one endothelin antagonist in combination with **p-GlcNAc** or p-Glc. **p-GlcNAc** of molecular weight 0.8-30 million daltons comprises 4000-150000 of N-acetylglucosamine monosaccharides covalently attached in a beta -1-->4 confirmation free of proteins, organic and inorganic components. p-Glc of 0.64-24 million daltons molecular weight comprises 4000-150000 of glucosamine monosaccharides covalently attached in a beta -1-->4 conformation free of proteins, organic and inorganic components.

ACTIVITY - Cytostatic.

Ability of the composition comprising endothelin antagonist and **p-GlcNAc** to treat tumor was tested using female C57BL/6 **mice**. 5 multiply 108 of B16 melanoma cells were injected intraperitoneally into **mice**. Animals were

randomly separated into 3 groups and to them 100 mu l of **p -GlcNAC** gel alone, 100 mu l of HBSS containing 3 mg/kg Ro61 or 100 mu l of **p-GlcNAc** gel containing 3 mg/kg R061. Animals were monitored daily and sacrificed for humane reasons when determined moribund. The results shows, the injection of **p-GlcNAc** alone delayed death by 5 days but did not increase the survival rate of the animals. However, the combination of **p-GlcNAc** and Ro61 at a low dose (3 mg/kg) also delayed death and 33% of the animals showed no evidence of tumor at day 33 after tumor injection. Daily injections of the same low dose of Ro61 alone did not affect survival of the **mice**.

MECHANISM OF ACTION - Endothelin antagonist.

USE - (I) is useful for inhibiting tumor growth and other neoplastic cells and thereby treats cell proliferative diseases (particularly cancer) (claimed).

ADVANTAGE - (I) has increased effectiveness, reduced toxicity and improved bioavailability.

Dwg.0/12

L7 ANSWER 12 OF 36 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 2001031142 MEDLINE
DOCUMENT NUMBER: 20490751 PubMed ID: 10913116
TITLE: Chitin catabolism in the marine bacterium Vibrio furnissii. Identification, molecular cloning, and characterization of A N, N'-diacetylchitobiose phosphorylase.
AUTHOR: Park J K; Keyhani N O; Roseman S
CORPORATE SOURCE: Department of Biology and the McCollum-Pratt Institute, The Johns Hopkins University, Baltimore, Maryland 21218, USA.
CONTRACT NUMBER: GM51215 (NIGMS)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (2000 Oct 20) 275 (42) 33077-83.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF230379
ENTRY MONTH: 200011
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001120

AB The major product of bacterial chitinases is N,N'-diacetylchitobiose or (GlcNAc)(2). We have previously demonstrated that (GlcNAc)(2) is taken up unchanged by a specific permease in Vibrio furnissii (unlike Escherichia coli). It is generally held that marine Vibrios further metabolize cytoplasmic (GlcNAc)(2) by hydrolyzing it to two GlcNAcs (i.e. a "chitobiase "). Here we report instead that V. furnissii expresses a novel phosphorylase. The gene, chbP, was cloned into E. coli; the enzyme, ChbP, was **purified** to apparent homogeneity, and characterized kinetically. The DNA sequence indicates that chbP encodes an 89-kDa protein. The enzymatic reaction was characterized as follows. (GlcNAc)(2)+P(i) GlcNAc-alpha-1-**P+GlcNAc** K'(cq)=1.0+/-0.2 Reaction 1 The K(m) values for the four substrates were in the range 0.3-1 mm. p-Nitrophenyl-(GlcNAc)(2) was cleaved at 8.5% the rate of

(GlcNAc)(2), and p-nitrophenyl (PNP)-GlcNAc was 36% as active as GlcNAc in the reverse direction. All other compounds tested displayed </=1% of the activity of the indicated substrates including: for phosphorolysis, higher chitin oliogsaccharides, (GlcNAc)(n), n = 3-5, cellobiose, PNP-GlcNAc, and PNP-(GlcNAc)(3); for synthesis, (GlcNAc)(n) (n = 2-5), glucose, etc. (GlcNAc)(2) is a major regulator of the chitin catabolic cascade. Conceivably GlcNAc-alpha-1-P plays a similar but different role in regulation.

L7 ANSWER 13 OF 36 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
ACCESSION NUMBER: 2000-237146 [20] WPIDS
CROSS REFERENCE: 2003-468220 [44]
DOC. NO. CPI: C2000-072119
TITLE: Novel synthetic glycosulfopeptides which are P-selectin glycoprotein ligand-1 (PSGL-1) mimics, used as anti- inflammatory agents in the treatment of acute and chronic inflammation.
DERWENT CLASS: B04 D16 Q11
INVENTOR(S): CUMMINGS, R D; MCEVER, R P
PATENT ASSIGNEE(S): (CUMM-I) CUMMINGS R D; (MCEV-I) MCEVER R P; (UYOK-N) UNIV OKLAHOMA
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9965712	A2	19991223	(200020)*	EN	76
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9945673	A	20000105	(200024)		
EP 1087996	A2	20010404	(200120)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 2002026033	A1	20020228	(200220)		
US 2002042102	A1	20020411	(200227)		
JP 2002518354	W	20020625	(200243)		70
US 6545123	B2	20030408	(200327)		
US 6569998	B2	20030527	(200337)		
US 6593459	B1	20030715	(200348)		
US 2003143662	A1	20030731	(200354)		
US 2003144183	A1	20030731	(200354)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9965712	A2		WO 1999-US13455	19990615
AU 9945673	A		AU 1999-45673	19990615
EP 1087996	A2		EP 1999-928662	19990615
			WO 1999-US13455	19990615
US 2002026033	A1	Provisional	US 1998-89472P	19980616
		Div ex	US 1999-334013	19990615
			US 2001-849031	20010504
US 2002042102	A1	Provisional	US 1998-89472P	19980616
		Div ex	US 1999-334013	19990615

Searcher : Shears 308-4994

			US 2001-849562	20010504
JP 2002518354	W		WO 1999-US13455	19990615
			JP 2000-554568	19990615
US 6545123	B2	Provisional	US 1998-89472P	19980616
		Div ex	US 1999-334013	19990615
			US 2001-849562	20010504
US 6569998	B2	Provisional	US 1998-89472P	19980616
		Div ex	US 1999-334013	19990615
			US 2001-849031	20010504
US 6593459	B1	Provisional	US 1998-89472P	19980616
			US 1999-334013	19990615
US 2003143662	A1	Provisional	US 1998-89472P	19980616
		CIP of	US 1999-334013	19990615
		Provisional	US 2001-345988P	20011019
			US 2002-278594	20021018
US 2003144183	A1	Provisional	US 1998-89472P	19980616
		Cont of	US 1999-334013	19990615
			US 2002-329068	20021220

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9945673	A	Based on	WO 9965712
EP 1087996	A2	Based on	WO 9965712
JP 2002518354	W	Based on	WO 9965712

PRIORITY APPLN. INFO: US 1998-89472P 19980616; US 1999-334013 19990615; US 2001-849031 20010504; US 2001-849562 20010504; US 2001-345988P 20011019; US 2002-278594 20021018; US 2002-329068 20021220

AN 2000-237146 [20] WPIDS
CR 2003-468220 [44]
AB WO 9965712 A UPAB: 20030821
NOVELTY - A new class of synthetic glycosulfopeptides (GSPs) which mimic the extreme amino terminus of P-selectin glycoprotein ligand-1 (PSGL-1) are disclosed. The GSPs comprise one or more sulfated tyrosine residues and a glycan comprising a sialyl Lewis-x group or a sialyl Lewis-a group.

DETAILED DESCRIPTION - A compound comprising the following formula is new: (XC)j-Tyr(SO3-)-(XB)k-XA(R)- (XD)n.

Tyr = tyrosine residue;

(SO3-) = sulfate group attached to the Tyr residue;

XA = N- or O- linking amino acid residue;

R = sialylated, fucosylated, N-acetyllactosamino glycan in O- or N-linkage to XA;

XB, XC and XD = amino acid residues; and

j, k, and n = 0-12 independently.

The compound comprises nor more than 38 residues.

INDEPENDENT CLAIMS are also included for the following:

(1) a process for making a GSP compound, comprising:

(a) providing a peptide comprising at least one tyrosine residue and at least one N- or O-linking amino acid residue to which a side group can be linked via an N- or O-linkage, respectively;

(b) linking, a GalNAc to the N- or O-linking amino acid residue;

(c) enzymatically linking a Gal to the GalNAc, GlcNAc to the

GalNAc, preferably via a beta 1,6 linkage, a second Gal to the GlcNAc, a sialic acid to the second Gal, a Fuc to the GlcNAc; and a sulfate to the tyrosine residue;

(2) a process for making a GSP compound, comprising:

(a) providing a peptide comprising at least one tyrosine residue, at least one N- or O-linking amino acid having a GlcNAc in N- or O-linkage;

(b) enzymatically linking a Gal to the GlcNAc, a sialic acid to the Gal, a Fuc to the GlcNAc; and a sulfate to the tyrosine residue;

(3) a process for making a GSP compound, comprising synthesizing a peptide having an oligosaccharide linked to it by:

(a) providing a peptide having a GalNAc linked to a N- or O-linking amino acid residue of the peptide;

(b) enzymatically linking a Gal to the GalNAc, a GlcNAc to the GalNAc, a Gal to the GlcNAc, a sialic acid to the Gal, a Fuc to the GlcNAc; and

(c) cleaving the oligosaccharide from the peptide;

(4) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one Tyr, at least one N- or O-linked amino acid residue with a GlcNAc in N- or O-linkage;

(b) enzymatically linking a Gal to the GlcNAc, a sialic acid to the Gal, a Fuc to the GlcNAc, and a sulfate to the tyrosine residue;

(5) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one sulfated Tyr and at least one threonine or serine residue having a GlcNAc O-linked;

(b) enzymatically linking a Gal to the GlcNAc, a sialic acid to the Gal, and a Fuc to the GlcNAc;

(6) a process for making an oligosaccharide, comprising synthesizing a peptide with a linked oligosaccharide by

(a) providing a peptide having a GalNAc linked to a N- or O-linking amino acid residue of the peptide;

(b) enzymatically linking a Gal to the GalNAc, a GlcNAc to the GalNAc, a Gal to the GlcNAc, a sialic acid to the Gal, a Fuc to the GlcNAc; and

(c) cleaving the oligosaccharide from the peptide;

(7) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one Tyr and at least one N- or O- linking amino acid residue to which a side group can be attached via N- or O- linking;

(b) linking a GalNAc to the linking amino acid;

(c) linking a Gal to the GalNAc, a GlcNAc to the GalNAc, a Gal to the GlcNAc, a sialic acid to the second Gal, a Fuc to the GlcNAc;and

(d) linking a sulfate to the Tyr;

(8) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one sulfated Tyr and at least one N- or O- linked amino acid residue;

(b) linking a GalNAc to the linked amino acid, a GAl to the GalNAc and a GlcNAc to the GalNAc, a Gal to the GlcNAc, a sialic acid to the Gal, and a Fuc to the GlcNAc;

(9) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one Tyr, at least one N- or O- linking amino acid residue having GlcNAc in N- or O-linkage to it;

(b) linking a Gal to the GlcNAc, a sialic acid to the Gal, a

Fuc to the GlcNAc, and a sulfate to the Tyr;

(10) a process for making a GSP compound, comprising

(a) providing a peptide comprising at least one sulfated Tyr, and at least one Thr or Ser having a GlcNAc O-linked to it;

(b) linking a Gal to the GlcNAc, a sialic acid to the Gal, and a Fuc to the GlcNAc; and

(11) a process for making an oligosaccharide, comprising synthesizing a peptide having an oligosaccharide linked to it; and

(a) providing a peptide having a GalNAc linked to a N- or O-linking amino acid residue of the peptide;

(b) linking a Gal to the GalNAc, a GlcNAc to the GalNAc, a Gal to the GlcNAc, a sialic acid to the Gal, a Fuc to the GlcNAc; and

(c) cleaving the oligosaccharide from the peptide.

ACTIVITY - Anti-inflammatory.

MECHANISM OF ACTION - None given.

USE - The synthetic glycosulfopeptides (GSPs) are used to treat inflammatory diseases. They can be used to treat both chronic and acute inflammation, e.g. diffuse inflammation, traumatic inflammation, immunosuppression, toxic diffuse inflammation, specific inflammation, reactive inflammation, parenchymatous inflammation, obliterative inflammation, interstitial inflammation, croupous inflammation and focal inflammation. Diseases which may be treated include rheumatoid arthritis, post-ischemic (reperfusion) leukocyte-mediated tissue damage, acute leukocyte-mediated lung injury (e.g. Adult respiratory Distress syndrome), and other tissue or organ specific forms of acute inflammation (e.g. glomerulonephritis). The GSPs can also be used with enzyme linked immunosorbant assay (ELISA) techniques to distinguish between monoclonal antibodies which react with core-2 sialyl Lewis-x groups versus those which react with core-1 sialyl Lewis-x groups. The GSPs are also excellent acceptors for specific glycosyltransferases.

ADVANTAGE - Naturally occurring quantities of P- selectin glycoprotein ligand-1 (PSGL-1) are limited and it is not feasible to produce PSGL-1 from human neutrophils in a form suitable for administration as an anti-inflammatory compound. Recombinant means of PSGL-1 synthesis are tedious and expensive, and have problems and uncertainties of proper post-translational modifications of the PSGL-1 backbone. Production of PSGL-1 mimics by synthetic means overcomes these problems, and allows the complete control of the O-glycan sites and structures without regard to O- glycosylation motifs.

Dwg.0/11

L7 ANSWER 14 OF 36 MEDLINE on STN DUPLICATE 5

ACCESSION NUMBER: 1999280221 MEDLINE

DOCUMENT NUMBER: 99280221 PubMed ID: 10353754

TITLE: Primary T-cell and activated macrophage response associated with tumor protection using peptide/poly-N-acetyl glucosamine vaccination.

AUTHOR: Maitre N; Brown J M; Demcheva M; Kelley J R; Lockett M A; Vournakis J; Cole D J

CORPORATE SOURCE: Department of Surgery, Medical University of South Carolina, Charleston 29425, USA.

SOURCE: CLINICAL CANCER RESEARCH, (1999 May) 5 (5) 1173-82. Journal code: 9502500. ISSN: 1078-0432.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

Searcher : Shears 308-4994

FILE SEGMENT: Priority Journals; AIDS
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 19990816
Last Updated on STN: 19990816
Entered Medline: 19990730

AB The mode of peptide-based cancer vaccine administration critically affects the ability to achieve a clinically relevant tumor-specific response. We have previously shown (Cole et al., Clin. Cancer Res., 3: 867-873, 1997) that a specific formulation of the polysaccharide poly-N-acetyl glucosamine (**p-GlcNAc**, designated as F2 gel) is an effective vehicle for sustained cytokine and peptide delivery in vitro. The purpose of this study was to evaluate the efficacy of F2 gel/peptide vaccination in the murine EG.7-OVA tumor model and to elucidate potential mechanisms involved in the observed cell-mediated response. C57BL/6 **mice** were given injections of 200 microl in the base of tail/footpad using either F2 gel alone or 200 microg of: SIINFEKL minimal peptide (OVA) in PBS, OVA peptide/endoplasmic reticulum insertion signal sequence fusion (ESOVA) in PBS, OVA in F2 gel, or ESOVA in F2 gel. Splenocytes were tested 10 days later for a secondary response using a Cr51 assay as well as a primary CTL response using the lactate dehydrogenase cytotoxicity assay. Splenocytes from immunized **mice** were harvested at specific time points and assayed for cell surface and intracellular markers. On day 10 postvaccination, animals were challenged with EG.7-OVA murine thymoma cells. Tumor size and appearance were recorded. Vaccination with F2 gel/peptide (either OVA or ESOVA) resulted in a primary T-cell response (up to 25% tumor cell-specific lysis) and no tumor growth in 69% of the **mice**. By 48 h, the proportion of splenic T cells had increased 4-fold compared with B cells. Presence of an increased Th1 CD4 helper population was demonstrated by IFN-gamma production. CD4 cells were activated at 24 and 48 h as shown by IL-2 receptor alpha chain expression (from 2% basal expression to 15.4% at 48 h). Activated splenic macrophages increased from 3 to 8% within 10 h, and their level of B7-2 expression doubled. Depletion of macrophages before vaccine injection abolished any tumor-specific primary CTL response. F2 gel/peptide tumor vaccine can prime the immune system in an antigen-specific manner by generating a measurable primary T-cell response with minimal peptide; this process involves macrophage presence and activation as well as induction of Th1 CD4 cells. This is the first demonstration of a primary CTL response generated with minimal peptide vaccination using a noninfectious delivery system. These results justify additional studies to better define the mechanisms involved in F2 gel/peptide vaccination in preparation for clinical trials.

L7 ANSWER 15 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 6

ACCESSION NUMBER: 1999:392278 BIOSIS
DOCUMENT NUMBER: PREV199900392278
TITLE: Dietary supplementation of chitin and chitosan depresses growth in tilapia, Oreochromis niloticus X O. aureus.
AUTHOR(S): Shiau, Shi-Yen [Reprint author]; Yu, Yi-Ping
CORPORATE SOURCE: Department of Food Science, National Taiwan Ocean University, Keelung, 202, Taiwan
SOURCE: Aquaculture, (Sept. 1, 1999) Vol. 179, No. 1-4, pp.

Searcher : Shears 308-4994

439-446. print.
CODEN: AQCLAL. ISSN: 0044-8486.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 28 Sep 1999
Last Updated on STN: 28 Sep 1999

AB The effect of chitin, **poly**-beta-(1 fwdarw **4**)-**N-acetyl-glucosamine**, and chitosan, a polymer of glucosamine obtained by the **deacetylation** of chitin, on growth and nutrient digestibility was studied in tilapia, Oreochromis niloticus X O. aureus, fed diets containing fiber at 0, 2, 5 or 10% of a basal diet for 8 weeks. Each diet was fed to triplicate groups of fish with a mean initial body weight of 0.99 +- 0.01 g. Significantly ($P < 0.05$) lower body weight gains were observed in fish fed chitin and chitosan containing diets than fish fed the control diet regardless of the supplementation level. The weight gain of fish decreased as dietary chitin and chitosan supplementation level increased (chitin, $r = 0.97$, $P < 0.05$; chitosan, $r = 0.73$, $P < 0.05$). Higher ($P < 0.05$) weight gains were observed in fish fed 5 and 10% chitin diets than fish fed the chitosan diets. Feed conversion ratio (FCR) followed the same pattern of the weight gain. Lipid and dry matter digestibilities were lower in fish fed the 10% chitin diet than in fish fed the control diet. Lower lipid and dry matter digestibilities and lower body lipid content were observed in fish fed chitosan containing diets irrespective of supplementation level. Fish fed 2 and 5% chitin diet had higher lipid digestibility than fish fed chitosan diet. Body lipid content of the fish reflect the general pattern of the lipid digestibility. These data suggest that both chitin and chitosan supplementation depresses tilapia growth regardless of the supplementation level.

L7 ANSWER 16 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1999:188297 BIOSIS
DOCUMENT NUMBER: PREV199900188297
TITLE: Primary T-cell and activated macrophage response associated with tumor protection using peptide/poly-N-acetyl glucosamine (**p-GlcNAc**) vaccination.
AUTHOR(S): Maitre, N.; Stack, A.; Brown, J. M.; Demcheva, M.; Kelley, J. R.; Vourmakis, J.; Cole, D. J.
CORPORATE SOURCE: MUSC Dep. Surg., CMSB, Hollings Cancer Cent., Charleston, SC, USA
SOURCE: Proceedings of the American Association for Cancer Research Annual Meeting, (March, 1999) Vol. 40, pp. 255. print.
Meeting Info.: 90th Annual Meeting of the American Association for Cancer Research. Philadelphia, Pennsylvania, USA. April 10-14, 1999. American Association for Cancer Research.
ISSN: 0197-016X.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 May 1999
Last Updated on STN: 5 May 1999

L7 ANSWER 17 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1999:182014 BIOSIS
DOCUMENT NUMBER: PREV199900182014
TITLE: Concomitant cytokine delivery with poly-N-acetyl glucosamine (**p-GlcNAc**)/peptide vaccination leads to an enhanced CTL and anti-tumor response.
AUTHOR(S): Maitre, N.; Cole, D. J.; Stack, A.; Kelley, J. R.; Vary, C.; Demcheva, M.; Voumakis, J.
CORPORATE SOURCE: MUSC, Dep. Surgery, Hollings Cancer Cent., Charleston, SC, USA
SOURCE: Proceedings of the American Association for Cancer Research Annual Meeting, (March, 1999) Vol. 40, pp. 79. print.
Meeting Info.: 90th Annual Meeting of the American Association for Cancer Research. Philadelphia, Pennsylvania, USA. April 10-14, 1999. American Association for Cancer Research.
ISSN: 0197-016X.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 May 1999
Last Updated on STN: 5 May 1999

L7 ANSWER 18 OF 36 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

ACCESSION NUMBER: 1998:674723 SCISEARCH
THE GENUINE ARTICLE: 115GE
TITLE: Identification and characterisation of early reactions of asparagine-linked oligosaccharide assembly in Entamoeba histolytica
AUTHOR: VargasRodriguez L; VillagomezCastro J C; FloresCarreon A; LopezRomero E (Reprint)
CORPORATE SOURCE: UNIV GUANAJUATO, INST INVEST BIOL EXPT, FAC QUIM, APARTADO POSTAL 187, GUANAJUATO 36000, MEXICO (Reprint); UNIV GUANAJUATO, INST INVEST BIOL EXPT, FAC QUIM, GUANAJUATO 36000, MEXICO; INST POLITECN NACL, CTR INVEST & ESTUDIOS AVANZADOS, DEPT MOL BIOL & GENET, MEXICO CITY 07000, DF, MEXICO
COUNTRY OF AUTHOR: MEXICO
SOURCE: INTERNATIONAL JOURNAL FOR PARASITOLOGY, (SEP 1998) Vol. 28, No. 9, pp. 1333-1340.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
ISSN: 0020-7519.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 24

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Sequential incubation of a mixed membrane fraction isolated from Entamoeba histolytica trophozoites with the nonionic detergents Brij 35 and Igepal CA-630 rendered a soluble fraction with the ability to transfer N-acetylglucosamine (GlcNAc) from UDP-GlcNAc to dolichol phosphate to form a lipid saccharide that was identified as a mixture of dolichol-P-**P-GlcNAc** and dolichol-P-

P-(GlcNAc)(2) as follows. (a) The reaction occurred only in the presence of exogenously added dolichol phosphate and was strongly inhibited by tunicamycin and amphomycin; (b) Over 90% of the aminosugar moiety of the lipid saccharide was released by mild acid hydrolysis and was identified as a mixture of GlcNAc and diacetylchitobiose [(GlcNAc)(2)]; (c) Time course experiments revealed that dolichol-P-**P-(GlcNAc**)(2) accumulated at the expense of a parallel decrease in dolichol-P-**P-GlcNAc** revealing the tandem operation of UDPGlcNAc:dolichol-**P GlcNAc**-1-P transferase and UDPGlcNAc:dolichol-**P GlcNAc** transferase. Mg2+ and to a lower extent Mn2+ were required for catalytic activity and were optimal at 2.5 mM and 1.25 mM, respectively, Common phospholipids with different head groups failed to increase catalytic activity and phosphatidylglycerol was inhibitory. At low concentration, nucleotides such as ATP, GMP and GTP brought about stimulations of 24-54% but higher concentrations were inhibitory. Others were inhibitory at all concentrations the strongest being those containing a uridine base.

L7 ANSWER 19 OF 36 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 1998234456 MEDLINE
DOCUMENT NUMBER: 98234456 PubMed ID: 9567002
TITLE: Chitin but not chitosan supplementation enhances growth of grass shrimp, Penaeus monodon.
AUTHOR: Shiau S Y; Yu Y P
CORPORATE SOURCE: Department of Marine Food Science, National Taiwan Ocean University, Keelung, Taiwan 202 ROC.
SOURCE: JOURNAL OF NUTRITION, (1998 May) 128 (5) 908-12. Journal code: 0404243. ISSN: 0022-3166.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199806
ENTRY DATE: Entered STN: 19980618
Last Updated on STN: 20021218
Entered Medline: 19980608

AB The effect of chitin, **poly**-beta-(**1 --> 4**)-**N-acetyl-glucosamine**, and chitosan, a polymer of glucosamine obtained by the **deacetylation** of chitin, on growth and nutrient digestibility was studied in grass shrimp, Penaeus monodon. Shrimp were fed for 8 wk diets containing no supplement (control) or 2, 5 or 10 g/100 g chitin or chitosan. Each diet was fed to triplicate groups of shrimp with a mean initial body weight of 0.45 +/- 0.05 g. Significantly higher body weight gains were observed in shrimp fed the 5% chitin diet than in those fed the 10% chitin or the control diet. The weight gain of shrimp decreased as dietary chitosan supplementation level increased ($r = 0.87$, $P < 0.05$). Feed efficiencies (FE) and protein efficiency ratios (PER) followed the same pattern. Lower protein and lipid digestibilities and lower body protein and lipid contents were observed in shrimp fed all chitosan-containing diets than in controls ($P < 0.05$). Carbohydrate digestibility was lower in shrimp fed the 10% chitosan diet than in those fed the control diet. Lower protein and lipid digestibilities, body lipid content and blood

cholesterol concentration were observed in shrimp fed the 10% chitin diet compared with controls ($P < 0.05$). Higher weight gains, body lipid contents and blood cholesterol concentrations were observed in shrimp fed the 2 and 5% chitin diets than in those fed the chitosan diets. Shrimp fed the 5% chitin diet had higher protein and lipid digestibilities and higher body protein content than those fed the 5% chitosan diet ($P < 0.05$). These data suggest that dietary chitin, supplemented at 5%, enhances P. monodon growth, whereas chitosan depresses shrimp growth, regardless of the supplementation level.

L7 ANSWER 20 OF 36 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
ACCESSION NUMBER: 1997-244430 [22] WPIDS
CROSS REFERENCE: 1995-224100 [29]; 1997-042814 [04]; 2000-375540 [31]
DOC. NO. CPI: C1997-079173
TITLE: **Purified** poly-N-acetyl-glucosamine and poly-glucosamine - derived from marine micro-algae, used as cell culture substrates.
DERWENT CLASS: B04 D16 D21
INVENTOR(S): FINKIELSZTEIN, S; HELTON, M; PARISER, E R; VOURNAKIS, J N
PATENT ASSIGNEE(S): (MARI-N) MARINE POLYMER TECHNOLOGIES INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5623064	A	19970422	(199722)*		89

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5623064	A	CIP of	US 1993-160569	19931201
			US 1994-347911	19941201

PRIORITY APPLN. INFO: US 1994-347911 19941201; US 1993-160569 19931201
AN 1997-244430 [22] WPIDS
CR 1995-224100 [29]; 1997-042814 [04]; 2000-375540 [31]
AB US 5623064 A UPAB: 20000706
The following are claimed:
(1) a **poly-** beta -**1** => **4-N-acetylglucosamine** (I) comprising 4000-150000 N-acetylglucosamine monosaccharide units covalently attached in a beta -1 => 4 conformation and having a molecular weight of 800-30000 kDa, where (I) is free of protein and substantially free of other organic and inorganic contaminants;
(2) a poly- beta -1 => 4-glucosamine (II) comprising 4000-150000 glucosamine monosaccharide units and having a molecular weight of 640-24000 kDa, where (II) is free of protein and substantially free of other organic and inorganic contaminants;
(3) derivatives of (I) in which at least 1 N-acetylglucosamine unit has been **deacetylated**;
(4) derivatives of (II) in which at least 1 glucosamine unit has been acetylated;

(5) derivatives of (I) and (II) in which at least 1 monosaccharide unit contains a sulphate, sulphonyl, O-acyl, N-acyl, O-alkyl, N-alkyl, N-alkylidene or N-arylidene [sic] group;

(6) derivatives of (I) and (II) in which at least 1 monosaccharide unit is in the form of a phosphorylated derivative, a nitrated derivative, an alkali derivative or a deoxy-halogen derivative;

(7) derivatives of (I) and (II) in which at least 1 monosaccharide unit forms a salt or a metal chelate, and

(8) derivatives of (I) and (II) in which at least 1 monosaccharide unit contains lactate.

USE - The compounds are used as cell culture substrates; for the production of mats, strings, ropes, microspheres, microbeads, membranes, fibres, powders or sponges; for the production of 3-dimensional matrix formulations (all claimed); for applications in the biomedical, pharmaceutical, agrochemical, food, cosmetic and chemical engineering industries; as carriers for controlled drug release; as cell encapsulation systems, and for prevention of post-surgical adhesions.

ADVANTAGE - Problems of unpredictable raw material variability associated with chitin and chitosan are overcome, since (I) can be produced in highly crystalline form by culturing marine microalgae (especially diatoms) under carefully controlled aseptic conditions.

Dwg.0/31

L7 ANSWER 21 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1997:539344 BIOSIS
DOCUMENT NUMBER: PREV199799838547
TITLE: Development of cancer vaccines and anti-cancer therapeutics drug delivery systems using **poly** -B-**1**-greater **4-N** **acetyl glucosamine**.
AUTHOR(S): Vournakis, J. N. [Reprint author]; Weisberg, T.; Brown, J. [Reprint author]; Demcheva, M. [Reprint author]; Woo, S. [Reprint author]; Broderick, C. [Reprint author]; Cole, D. [Reprint author]
CORPORATE SOURCE: Center Molecular Structural Biol., Hollings Cancer Center, Med. Univ. South Carolina, 171 Ashley Ave., Charleston, SC 29425, USA
SOURCE: International Journal of Oncology, (1997) Vol. 11, No. SUPPL., pp. 929.
Meeting Info.: 2nd World Congress on Advances in Oncology. Athens, Greece. October 16-18, 1997.
ISSN: 1019-6439.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 12 Dec 1997
Last Updated on STN: 27 Jan 1998

L7 ANSWER 22 OF 36 MEDLINE on STN DUPLICATE 8

ACCESSION NUMBER: 1999111010 MEDLINE
DOCUMENT NUMBER: 99111010 PubMed ID: 9815761
TITLE: Characterization of a sustained-release delivery system for combined cytokine/peptide vaccination using a poly-N-acetyl glucosamine-based polymer matrix.

Searcher : Shears 308-4994

AUTHOR: Cole D J; Gattoni-Celli S; McClay E F; Metcalf J S; Brown J M; Nabavi N; Newton D A 3rd; Woolhiser C B; Wilson M C; Vournakis J N

CORPORATE SOURCE: Departments of Surgery, (Division of Hematology/Oncology), University of South Carolina, Charleston, South Carolina.

SOURCE: CLINICAL CANCER RESEARCH, (1997 Jun) 3 (6) 867-73. Journal code: 9502500. ISSN: 1078-0432.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199902

ENTRY DATE: Entered STN: 19990301
Last Updated on STN: 19990301
Entered Medline: 19990212

AB Identification of tumor-associated antigens (TAAs) and their class I MHC-restricted epitopes now allows for the rational design of peptide-based cancer vaccines. A biocompatible system capable of sustained release of biologically relevant levels of cytokine and TAA peptide could provide a more effective microenvironment for antigen presentation. Our goal was to test a sustained-release cytokine/TAA peptide-based formulation using a highly **purified** polysaccharide [poly-N-acetyl glucosamine (**p-GlcNAc**)] polymer. Granulocyte-macrophage colony-stimulating factor (GM-CSF; 100 microgram) and MART-1(27-35) peptide (128 microgram in DMSO) were formulated into **p-GlcNAc**. Peptide release was assayed in vitro using interleukin 2 production from previously characterized MART-1(27-35)-specific Jurkat T cells (JRT22). GM-CSF release was assayed via ELISA and proliferation of M-07e (GM-CSF-dependent) cells. Local bioavailability of MART-1(27-35) peptide for uptake and presentation by antigen-presenting cells was demonstrated for up to 6 days (>0.5 microgram/ml). More than 1.0 microgram/ml GM-CSF was concomitantly released over the same period. Biocompatibility and local tissue response to **p-GlcNAc** releasing murine GM-CSF was determined in C57BL/6 **mice** via s.c. injection using murine GM-CSF (0. 2 microgram/ml) in 200 microliter of a 2.5% polymer gel. Significant lymphocytic and eosinophilic infiltration was observed 2-7 days after injection with polymer containing murine GM-CSF. The results of our studies show that this biocompatible system is capable of a sustained concomitant release of biologically active peptide and cytokine into the local microenvironment. These findings support further studies to validate a **p-GlcNAc** delivery system vehicle for a cytokine/TAA peptide-based cancer vaccine.

L7 ANSWER 23 OF 36 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

ACCESSION NUMBER: 97:855847 SCISEARCH

THE GENUINE ARTICLE: YF973

TITLE: Genome organization of human 48-kDa oligosaccharyltransferase (DDOST)

AUTHOR: Yamagata T; Tsuru T; Momoi M Y; Suwa K; Nozaki Y; Mukasa T; Ohashi H; Fukushima Y; Momoi T (Reprint)

CORPORATE SOURCE: NATL INST NEUROSCI, DIV DEV & DIFFERENTIAT, NCNP, KODAIRA, TOKYO 187, JAPAN (Reprint); NATL INST NEUROSCI, DIV DEV & DIFFERENTIAT, NCNP, KODAIRA, TOKYO 187, JAPAN; JICHI MED SCH, DEPT PEDIAT, MINAMI

KAWACHI, TOCHIGI 32904, JAPAN; SAITAMA CHILDRENS MED CTR, DIV MED GENET, IWATSUKI, SAITAMA 339, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: GENOMICS, (1 NOV 1997) Vol. 45, No. 3, pp. 535-540.
Publisher: ACADEMIC PRESS INC JNL-COMP SUBSCRIPTIONS 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495.
ISSN: 0888-7543.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 19
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The enzyme oligosaccharyltransferase (dolichyl-diphosphooligosaccharide-protein glycosyltransferase; EC 2.4.1.119) (DDOST) catalyzes the transfer of a high-mannose oligosaccharide (GlcNac(2)Man(9)Glc(3)) from a dolichol-linked oligosaccharide donor (dolichol-**P-GlcNac**(2)Man(9)Glc(3)) onto the asparagine acceptor site within an Asn-X-Ser/Thr consensus motif in nascent polypeptide chains across the membrane of the endoplasmic reticulum. We isolated **mouse** and human DDOST cDNAs from retinoic acid-treated **mouse** P19 EC cells and human NT-2 cells, respectively. DDOST mRNA is expressed intensely in heart and pancreas, but at lower levels in brain. Here we show that the human DDOST 48-kDa subunit gene (HGMW-approved symbol DDOST) is organized into 11 exons expanding about 9 kb. This DDOST subunit gene is localized on chromosome 1p36.1 by fluorescence in situ hybridization analysis. (C) 1997 Academic Press.

L7 ANSWER 24 OF 36 MEDLINE on STN
ACCESSION NUMBER: 96205977 MEDLINE
DOCUMENT NUMBER: 96205977 PubMed ID: 8631826
TITLE: Biosynthesis of the linkage region of the mycobacterial cell wall.
AUTHOR: Mikusova K; Mikus M; Besra G S; Hancock I; Brennan P J
CORPORATE SOURCE: Department of Microbiology, Colorado State University, Fort Collins, 80523, USA.
CONTRACT NUMBER: AI 18357 (NIAID)
AI 30189 (NIAID)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1996 Mar 29) 271 (13) 7820-8.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199607
ENTRY DATE: Entered STN: 19960715
Last Updated on STN: 19970203
Entered Medline: 19960703

AB The "core" structure of the cell wall of Mycobacterium and related genera is unique among prokaryotes, consisting of a covalently linked complex of mycolic acids, D-arabinan and D-galactan (mycolylarabinogalactan, mAG), which, in turn, is linked to peptidoglycan via a special linkage unit, -alpha-L-Rhap(1-->3)-D-GlcNAc-P-. Little is known of the biosynthesis of this complex, although it is the site of action of several common anti-tuberculosis drugs. Isolated cell membranes of Mycobacterium

smegmatis catalyzed the incorporation of [14C]GlcNAc from UDP-[14C]GlcNAc into two glycolipids (1 and 2) and of [14C]Rha from TDP-[14C]Rha into glycolipid 2. These products were characterized as polyprenol-P-**P-GlcNAc** (glycolipid 1) and polyprenol-P-**P-GlcNAc**-Rha (glycolipid 2) based on sensitivity of synthesis to tunicamycin, chromatographic characterization of the products of mild acid hydrolysis, and mass spectral analysis of the glycosyl and polyprenyl units. Glycolipids 1 and 2 were shown to be precursors of the linkage unit in polymerized cell wall. The inclusion in the assays of UDP-[14C]Galp and a preparation of cell walls allowed the incorporation of [14C]Gal into two further glycolipids (3 and 4). Preliminary evidence indicates a precursor-product relationship among glycolipids 1, 2, 3, and 4. Thus, the first steps in the biosynthesis of the mycobacterial cell wall involve synthesis of the linkage disaccharide on a polyprenyl-P-P carrier followed by growth of the galactan unit. Assays are thus defined for the screening of new anti-tuberculosis drugs active against cell wall synthesis.

L7 ANSWER 25 OF 36 CANCERLIT on STN
ACCESSION NUMBER: 97608619 CANCERLIT
DOCUMENT NUMBER: 97608619
TITLE: Characterization of a sustained release delivery system for combined cytokine/peptide based vaccination using a fully-acetylated poly-N-acetyl glucosamine matrix (Meeting abstract).
AUTHOR: Cole D J; Gattoni-Celli S; McClay E F; Nabavi N; Warner S N; Newton D; Woolhiser C; Wilson M; Vournakis J
CORPORATE SOURCE: Dept. of Surgery, MUSC, Charleston, SC 29425.
SOURCE: Proc Annu Meet Am Assoc Cancer Res, (1996) 37 A3262. ISSN: 0197-016X.
DOCUMENT TYPE: (MEETING ABSTRACTS)
LANGUAGE: English
FILE SEGMENT: Institute for Cell and Developmental Biology
ENTRY MONTH: 199704
ENTRY DATE: Entered STN: 19980417
Last Updated on STN: 19980417

AB Identification of tumor associated antigens (TAA), and their class I MHC restricted epitopes, now allows for the rational design of peptide-based cancer vaccines. The goal of this study was to characterize in vitro a GM-CSF/MART-1 peptide based vaccine utilizing a fully-acetylated poly-N-acetyl glucosamine (**p-GlcNAc**) matrix for sustained release. **P-GlcNAc** is a highly **purified** chitin-based polymer degraded enzymatically by macrophages within 14-21 days, which has passed FDA biocompatibility testing. GM-CSF (200 ug) was dissolved into **p-GlcNAc** polymer prior to lyophilization. MART-1(27-35) peptide (256 ug in DMSO) was solubilized into post-lyophilization porous matrix. Peptide release was assayed in vitro using previously characterized class I MHC restricted Jurkat T-cells (JRT22) expressing MART-1(27-35) specific T-cell receptor. GM-CSF release was assayed via proliferation of M-07E GM-CSF dependent cells. Biologically active MART-1(27-35) peptide presented by T2 cells recognized by JRT22 was released for up to 6 days (greater than 50 ng/ml). Similarly, greater than 1 ug/ml GM-CSF was released over the same period. The mode of administration is a critical component in the design of peptide-based vaccines. A

biocompatible system capable of sustained release of biologically relevant levels of cytokine and TAA peptide potentially provides a more effective microenvironment for antigen presentation. This study demonstrates the sustained release of GM-CSF and MART-1(27-35) peptide from **P-GlcNAc** matrix, providing the basis for future clinical trials.

L7 ANSWER 26 OF 36 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
ACCESSION NUMBER: 1995-224100 [29] WPIDS
CROSS REFERENCE: 1997-042814 [04]; 1997-244430 [22]; 2000-375540 [32]
DOC. NO. CPI: C1995-103080
TITLE: New poly-beta-N-acetyl-glucosamine and deacylated derivative - isolated from diatoms, useful as cell culture substrates for controlled drug delivery, cell encapsulation, and to reduce post-surgical adhesions.
DERWENT CLASS: A11 A96 B04 B07 C07 D16 D21 D22 G03 G06
INVENTOR(S): FINKIELSZTEIN, S; HELTON, M; PARISER, E R; VOURNAKIS, J N
PATENT ASSIGNEE(S): (MARI-N) MARINE POLYMER TECHNOLOGIES INC
COUNTRY COUNT: 60
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9515343	A1	19950608	(199529)*	EN	198
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ					
W: AM AU BB BG BR BY CA CN CZ EE FI GE HU JP KE KG KR KZ LK LR LT LV MD MG MN MW NO NZ PL RO RU SD SI SK TJ TT UA UZ VN					
AU 9512969	A	19950619	(199540)		
EP 731812	A1	19960918	(199642)	EN	
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
US 5622834	A	19970422	(199722)		52
JP 09506126	W	19970617	(199734)		152
EP 731812	A4	19970618	(199746)		
NZ 277662	A	19980427	(199823)		
AU 695850	B	19980827	(199846)		
CN 1142833	A	19970212	(200050)		
CA 2372026	A1	19950608	(200236)	EN	
CA 2177823	C	20020430	(200237)	EN	
TW 458987	A	20011011	(200247)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9515343	A1	WO 1994-US13706	19941201
AU 9512969	A	AU 1995-12969	19941201
EP 731812	A1	WO 1994-US13706	19941201
		EP 1995-904174	19941201
US 5622834	A	US 1993-160569	19931201
JP 09506126	W	WO 1994-US13706	19941201
		JP 1995-515721	19941201
EP 731812	A4	EP 1995-904174	
NZ 277662	A	NZ 1994-277662	19941201
		WO 1994-US13706	19941201

Searcher : Shears 308-4994

AU 695850	B	AU 1995-12969	19941201
CN 1142833	A	CN 1994-194912	19941201
CA 2372026	A1 Div ex	CA 1994-2177823	19941201
		CA 1994-2372026	19941201
CA 2177823	C	CA 1994-2177823	19941201
		WO 1994-US13706	19941201
TW 458987	A	TW 1994-111374	19950228

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9512969	A	Based on	WO 9515343
EP 731812	A1	Based on	WO 9515343
JP 09506126	W	Based on	WO 9515343
NZ 277662	A	Based on	WO 9515343
AU 695850	B	Previous Publ.	AU 9512969
		Based on	WO 9515343
CA 2177823	C	Based on	WO 9515343

PRIORITY APPLN. INFO: US 1993-160569 19931201
AN 1995-224100 [29] WPIDS
CR 1997-042814 [04]; 1997-244430 [22]; 2000-375540 [32]
AB WO 9515343 A UPAB: 20020725
New isolated **poly**- beta **-1-4-N -acetylglucosamine** (I) has about 40 000-150 000 N-acetylglucosamine monomers covalently attached in the beta -1-4 configuration. the cpd. has a mol. weight of 0.8-3.0 multiply 106 Da and is free of protein and other (in)organic contaminants. Also claimed are: (1) similar poly- beta -1-4-glucosamines (II) of mol. weight 0.64-24 multiply 106 Da, opt. having at least 1 monomer acetylated; (2) encapsulation prods. consisting of (I) or (II) and a drug (A); (3) hybrids of (I) and (II) crosslinked to collagen; (4) (I) and (II) with at least 1 peptide (B) functionally attached to a **deacetylated** monomer; and (5) cells encapsulated by (I) or (II).

USE - (I) and (II) are used as cell culture substrates and are formed as mats, strings, ropes, microspheres, microbeads, sponges, membranes, fibres or powders, pref. with a 3-D matrix. They are also used for controlled drug delivery (i.e. gradual release of (A) or (B) as the polysaccharide degrades), partic. for treating tumours, infections, inflammation etc., or as spermicide; and specifically where (I) or (II) is a lactate, and for reduction of post-surgical adhesions (all claimed). The encapsulated cells can be admin. in vivo either to provide therapeutic agent (e.g. insulin) expressed by the cells, or to seed tissue regeneration. Very many other uses of (I) and (II), or their derivs. are described e.g. synthesis of new plastics; as wound dressings; as anticoagulants (when sulphated); as agricultural pesticides; for controlled release of agricultural chemicals; in foods and cosmetics; as metal-to-polymer adhesives; and as chelating agents in photography.

ADVANTAGE - (I) is easy to prepare in **pure** form with consistent properties. It is non-toxic, non-pyrogenic, biodegradable (at a predictable rate), biocompatible, non-immunogenic and can be attached to hard or soft tissue without use of sutures.

Dwg.14/31
ABEQ US 5622834 A UPAB: 19970530
A method for isolating **poly**-beta-**1-4**-

N-acetylglucosamine comprising 4,000 to 150,000 N-acetylglucosamine monosaccharides covalently attached in a beta-1-4 conformation, free of protein, substantially free of other organic contaminants, and having a molecular weight of 800 thousand daltons to 30 million daltons comprises: (a) culturing a microalgae comprising a cell body and a poly-beta-1-4N-acetylglucosamine fibre in a sterile culture solution having a neutral pH; (b) agitating the culture in step (a) about every 8 to 12 hours; (c) subjecting the microalgae to a mechanical force for a time sufficient to separate the cell body from the poly-beta-14-N-acetylglucosamine fibre; (d) segregating the **poly**-beta-**1-4-** **N-acetylglucosamine** fibre from the cell body; and (e) treating the **poly**-beta-**1-4-** **N-acetylglucosamine** fibre with an organic solvent or a detergent, so that all protein, substantially all other organic contaminants, and substantially all inorganic contaminants are removed from the segregated **poly**-beta-**1-4-N-acetylglucosamine** fibre, and the **poly**-beta-**1-4-N-acetylglucosamine** is isolated.
Dwg.0/17

L7 ANSWER 27 OF 36 MEDLINE on STN
ACCESSION NUMBER: 96330399 MEDLINE
DOCUMENT NUMBER: 96330399 PubMed ID: 8714293
TITLE: [The identification of repetitive sequences and internal symmetry in the primary structure of N-acetylglucosaminyl-1-phosphotransferases]. Identifikatsiia povtoriaiushchikhsia posledovatel'nostei i vnutrennei simmetrii v pervichnoi strukture N-atsetilgliukozaminil-1-fosfotransferaz.
AUTHOR: Shpakov A O
SOURCE: ZHURNAL EVOLIUTSIONNOI BIOKHIMII I FIZIOLOGII, (1995 Sep-Dec) 31 (5-6) 519-28.
Journal code: 21820250R. ISSN: 0044-4529.
PUB. COUNTRY: RUSSIA: Russian Federation
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199609
ENTRY DATE: Entered STN: 19961008
Last Updated on STN: 19961008
Entered Medline: 19960925

AB UDP-GlcNAc: Dol-**P GlcNAc**-1-P-transferases (GPT) are the high conservative family of enzymes which catalyze the first reaction of Dol-PP-GlcNAc2Man9Glc3 biosynthesis. This oligosaccharide is necessary for protein N-glycosylation taking place in the endoplasmic reticulum of eucaryotic cells. The analysis of amino acid codon roots made it possible to identify symmetrical segments in the primary structure of GPT. The centres of symmetry of these segments are mainly localized in potential membrane-spanning hydrophobic regions of proteins participating in dolychol-binding regions forming both catalytic and allosteric domains of GPT. Two types of repeating homologous amino acid sequences of yeast GPT are revealed by using graphic method of primary structure analysis. The first type is mainly characterised by the prevalence of hydrophobic amino acids and forms potential

transmembrane domains. Hydrophilic amino acids forming hydrophilic loop in C-terminal region of GPT are present in the second type. These sequences consist of 15-18 amino acids residues and occupy more than two-thirds of enzymic molecule.

L7 ANSWER 28 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 9

ACCESSION NUMBER: 1994:251753 BIOSIS
DOCUMENT NUMBER: PREV199497264753
TITLE: Induction of dolichyl-saccharide intermediate biosynthesis corresponds to increased long chain cis-isoprenyltransferase activity during the mitogenic response in **mouse** B cells.
AUTHOR(S): Crick, Dean C.; Scocca, Jane R.; Rush, Jeffrey S.; Frank, David W.; Krag, Sharon S.; Waechter, Charles J. [Reprint author]
CORPORATE SOURCE: Dep. Biochem., A. B. Chandler Med. Center, Univ. Kentucky College Med., Lexington, KY 40536, USA
SOURCE: Journal of Biological Chemistry, (1994) Vol. 269, No. 14, pp. 10559-10565.
CODEN: JBCHA3. ISSN: 0021-9258.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 8 Jun 1994
Last Updated on STN: 9 Jun 1994

AB There are large increases in the rates of Glc-3Man-9GlcNAc-2-P-P-Dol (Oligo-P-P-Dol) biosynthesis and protein N-glycosylation during the proliferative response of murine B lymphocytes (B cells) to bacterial lipopolysaccharide (LPS). To learn more about the regulation of dolichyl-saccharide biosynthesis, the possible relationships between developmental changes in specific steps in dolichyl phosphate (Dol-P) and N-acetylglucosaminylpyrophosphoryldol ichol (GlcNAc-P-P-Dol) biosynthesis and the induction of Oligo-P-P-Dol biosynthesis were investigated. These studies describe an impressive induction of long chain cis-isoprenyltransferase (cis-IPTase) activity, an enzyme system required for the chain elongation stage in de novo Dol-P synthesis, which corresponded to the striking increase in the rate of Oligo-P-P-Dol biosynthesis in LPS-activated B cells. The cellular level and specific activity of cis-IPTase increase 15-fold in LPS-treated cells with relatively unaltered affinity for isopentenyl pyrophosphate. The rates of Dol-P and Oligo-P-P-Dol synthesis increased substantially when cis-IPTase activity was induced, suggesting a regulatory relationship between the level of cis-IPTase activity and lipid intermediate synthesis. Distinctly different developmental patterns were observed for cis-IPTase and HMG-CoA reductase activity, and when sterol biosynthesis was drastically inhibited by lovastatin, the rate of synthesis of Dol-P was slightly higher in the presence of the drug. Modest elevations in the cellular levels of dolichol kinase, Dol-P phosphatase, and UDP-GlcNAc:Dol-P N-acetylglucosaminylphosphoryltransferase (L-G1PT) activities were also observed, but these changes were relatively small compared with the increases in cis-IPTase activity and the rates of Dol-**P**, **GlcNAc**-P-P-Dol, and Oligo-P-P-Dol synthesis. The expression of the L-G1PT gene is an early event in the developmental program for Oligo-P-P-Dol synthesis, but GlcNAc-P-P-Dol formation is apparently not rate-limiting. In summary, large increases in cis-IPTase activity

and the rate of Dol-P biosynthesis appear to play a key regulatory role in the induction of Oligo-P-P-Dol biosynthesis during the proliferative response of B cells to LPS, and the biosynthetic pathways for Dol-P and cholesterol are regulated independently in dividing B cells.

L7 ANSWER 29 OF 36 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 93297962 MEDLINE
DOCUMENT NUMBER: 93297962 PubMed ID: 8517724
TITLE: Selective inhibition of the bacterial translocase reaction in peptidoglycan synthesis by mureidomycins.
AUTHOR: Inukai M; Isono F; Takatsuki A
CORPORATE SOURCE: Fermentation Research Laboratories, Sankyo Co., Ltd., Tokyo, Japan.
SOURCE: ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1993 May) 37 (5) 980-3.
Journal code: 0315061. ISSN: 0066-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199307
ENTRY DATE: Entered STN: 19930806
Last Updated on STN: 19980206
Entered Medline: 19930722

AB Mureidomycins (MRDs) A and C inhibited strongly the formation of undecaprenyl pyrophosphoryl N-acetylmuramyl-pentapeptide (lipid intermediate I), which is an intermediate in bacterial peptidoglycan synthesis (50% inhibitory concentration [IC50] of MRD A, 0.05 microgram/ml). However, they did not inhibit the formation of dolichyl pyrophosphoryl N-acetylglucosamine (Dol-p-**p-GlcNAc**), dolichyl phosphoryl glucose, or dolichyl phosphoryl mannose, the precursors for mammalian glycoprotein synthesis, or the formation in Bacillus subtilis of lipid-linked N-acetylglucosamine for teichoic acid synthesis (IC50s, > 100 micrograms/ml). In contrast, tunicamycin (TCM) inhibited strongly the formation of Dol-p-**p-GlcNAc** (IC50, 0.03 microgram/ml) but inhibited weakly the formation of bacterial lipid intermediate I (IC50, 44 micrograms/ml). When the effects of MRDs A and C and TCM on the growth of mammalian cells were compared, MRDs did not show any toxicity, even at 1,000 micrograms/ml, whereas TCM inhibited the growth of BALB/3T3 cells at 10 micrograms/ml. On the basis of these results, it was concluded that MRDs are the first specific and potent inhibitors of the translocase reaction in bacterial peptidoglycan synthesis, showing a high level of toxicity against bacteria and a low level of toxicity against mammalian cells. A specific inhibitor of translocase could be a potent antibiotic with highly selective toxicity.

L7 ANSWER 30 OF 36 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 90354470 MEDLINE
DOCUMENT NUMBER: 90354470 PubMed ID: 2117613
TITLE: Topography of initiation of N-glycosylation reactions.
AUTHOR: Abeijon C; Hirschberg C B
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, University of Massachusetts Medical Center, Worcester 01655.

Searcher : Shears 308-4994

CONTRACT NUMBER: GM 30365 (NIGMS)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Aug 25) 265 (24) 14691-5.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199009
ENTRY DATE: Entered STN: 19901026
Last Updated on STN: 19901026
Entered Medline: 19900927

AB Previous studies on the topography of the reactions leading to the formation of dolichol-P-P-Glc-NAc2Man9Glc3 have shown that these occur on both sides of the endoplasmic reticulum membrane (Hirschberg, C. B., and Snider, M. D. (1987) Annu. Rev. Biochem. 56, 63-87). Dolichol-P-P-GlcNAc2Man5 has been detected on the cytoplasmic side of the endoplasmic reticulum membrane while the subsequent dolichol-oligosaccharide intermediates face the lumen. Less clear is the side of the membrane where dolichol-P-P-GlcNAc2 is assembled. We now present evidence strongly suggesting that the active sites of the enzymes catalyzing the synthesis of this latter intermediate are on the cytoplasmic side of the endoplasmic reticulum membrane. In addition, dolichol-P-P-GlcNAc2 has also been detected on this side. Incubations of sealed, "right side out" **rat** liver endoplasmic reticulum-derived vesicles with [beta-32P] UDP-GlcNAc in the presence of 5-Br-UMP resulted in the formation of radiolabeled dolichol-P-P-GlcNAc and dolichol-P-P-GlcNAc2 under conditions where there was complete inhibition of transport of the nucleotide sugar. In other experiments with the above radiolabeled nucleotide sugar and sealed vesicles, it was demonstrated that EDTA (a membrane-impermeable reagent) inhibited the N-acetylglucosamine-1-phosphate transferase under conditions where transport of the nucleotide sugar into the lumen was unaffected. Finally, sealed vesicles were first incubated with [32P]UDP-GlcNAc and subsequently with UDP-Gal and soluble galactosyltransferase. This resulted in galactosylation of dolichol-P-P-GlcNAc2. The above results, together with the previous observations, strongly suggest that all reactions leading to this latter dolichol intermediate occur on the cytosolic side of the endoplasmic reticulum membrane.

L7 ANSWER 31 OF 36 MEDLINE on STN

ACCESSION NUMBER: 90243877 MEDLINE
DOCUMENT NUMBER: 90243877 PubMed ID: 2159490
TITLE: Isolation of a crustacean N-acetyl-D-glucosamine-1-phosphate transferase and its activation by phospholipids.
AUTHOR: Horst M N
CORPORATE SOURCE: Division of Basic Medical Science, School of Medicine, Mercer University, Macon, GA 31207.
CONTRACT NUMBER: GM-30952 (NIGMS)
SOURCE: JOURNAL OF COMPARATIVE PHYSIOLOGY. B, BIOCHEMICAL, SYSTEMIC, AND ENVIRONMENTAL PHYSIOLOGY, (1990) 159 (6) 777-88.
Journal code: 8413200. ISSN: 0174-1578.
PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199006
ENTRY DATE: Entered STN: 19900706
Last Updated on STN: 19900706
Entered Medline: 19900613

AB The N-acetyl-D-glucosamine-1-phosphate:dolichol phosphate transferase from Artemia has been partially **purified** and characterized. The enzyme is solubilized from crude microsomes using Triton X-100, and after detergent removal appears to be associated with phospholipids. Using dolichol phosphate and UDP-N-acetyl-D-glucosamine as substrates, the enzyme catalyzes the formation of dolichol-pyrophosphate-N-acetyl-D-glucosamine. The product identity has been verified by TLC and paper chromatography following mild acid hydrolysis. Under the incubation conditions used only one product is made, i.e., Dol-P-**P**-**GlcNAc**. The formation of product is linear with increasing amounts of added protein and with time of incubation. The enzyme requires magnesium ions for activity. Activity of the enzyme is stimulated 6-fold by exogenous dolichol phosphate and is also stimulated by added phospholipids, with optimal activity being obtained in the presence of mixtures of phosphatidylcholine and phosphatidylglycerol. Enzymatic activity is not increased upon addition of GDP-mannose or dolichol phosphate mannose. The enzyme is rapidly inactivated by exposure to several detergents, including Triton X-100 and deoxycholate. The activity is inhibited by tunicamycin and by the **purified** B2 homologue of this antibiotic. Other antibiotic inhibitors such as diumycin and polyoxin D have little effect on the enzyme. Both the microsomal and solubilized enzyme preparations are inactivated by 70% upon treatment with phospholipase A2; activity may be restored by addition of phospholipids. Following hydrophobic interaction chromatography on Phenyl Sepharose, gel filtration chromatography on Sepharose CL-4B indicated that the enzyme, **purified** 81-fold, contained phophatidylcholine and phosphatidyl-ethanolamine.

L7 ANSWER 32 OF 36 JAPIO (C) 2003 JPO on STN
ACCESSION NUMBER: 1989-207238 JAPIO
TITLE: MATERIAL FOR PREVENTING DECUBITUS
INVENTOR: MORITA ISAMU; SUGIMOTO TADAYUKI
PATENT ASSIGNEE(S): DAI ICHI KOGYO SEIYAKU CO LTD
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 01207238	A	19890821	Heisei	A61K031-73

APPLICATION INFORMATION
STN FORMAT: JP 1988-33552 19880215
ORIGINAL: JP63033552 Showa
PRIORITY APPLN. INFO.: JP 1988-33552 19880215
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1989
AN 1989-207238 JAPIO
AB PURPOSE: To obtain a decubitus permanently effectively suppressing growth of bacteria of decubitus such as Pseudomonas aeruginasa, useful for alleviating pains of person in bed for a long period of time such as bedridden old people, comprising sheetlike polyurethane

foam having dispersed chitonate powder.
CONSTITUTION: A material for preventing decubitus comprising polyurethane foam carrying chitosan as an active ingredient. The polyurethane foam carrying the chitosan is obtained by dissolving a polyurethane polymer in an organic solvent, then suspending a chitonate powder in the solution and incorporating the suspension with a crosslinking agent such as amine or water, a blowing agent such as fluorocarbon. A substance obtained by **deacetylating** chitin (linear **poly**-(β-**1,4**-**N-acetylglucosamine**) obtained from shell of Crustacea such as crab or shell of arthropod with an concentrate alkali to give a compound and depolymerizing the compound with an alkali, acid, etc., to a proper molecular weight. The active ingredient is wetted and dissolved with sweat, etc., of a patient and gradually exhibits antibacterial effects.
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L7 ANSWER 33 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1988:336769 BIOSIS
DOCUMENT NUMBER: PREV198886043320; BA86:43320
TITLE: STUDIES ON THE BIOSYNTHESIS AND REGULATION OF ASPARAGINE-LINKED GLYCOPROTEINS IN THE LACTATING MAMMARY GLAND.
AUTHOR(S): VIJAY I K [Reprint author]; SHAILUBHAI K; DONG-YU B; PRATTA M A; SAXENA S
CORPORATE SOURCE: DEP ANIMAL SCI, UNIV MARYLAND, COLLEGE PARK, MD 20742, USA
SOURCE: Indian Journal of Biochemistry and Biophysics, (1988) Vol. 25, No. 1-2, pp. 127-132.
CODEN: IJBBBQ. ISSN: 0301-1208.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 21 Jul 1988
Last Updated on STN: 21 Jul 1988

AB The complex pathway for the biosynthesis of asparagine-linked glycoproteins involves at least 16 enzymes in the pre-translation phase constituting the dolichol cycle and a large number of enzymes for the processing and post-translational phases. The enzyme UDP-GlcNAc: Dol-**P GlcNAc**-1-P-transferase initiates the sequence for the dolichol-linked assembly of the precursor oligosaccharide Glc3Man9GlcNAc2; glucosidase I and II trigger the processing and post-translational modifications. Thus these enzymes appear to be excellent candidates for the regulation of biosynthesis of asparagine-linked glycoproteins. The mammary gland synthesizes and mobilizes a large amount of asparagine-linked glycoproteins during lactation; and this gland is under intense hormonal control for its growth and differentiation. We have **purified** the above three enzymes. Polyclonal antibodies raised against the glucosidases show excellent tissue and species immunocrossreactivity. These antibodies should serve as excellent initial probes for cloning the genes of these enzymes to undertake studies on regulation of glycoproteins in the mammary gland.

L7 ANSWER 34 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 85145089 EMBASE

DOCUMENT NUMBER: 1985145089
TITLE: **Purification** and properties of UDP-glcNAc:DOL-**P-GlcNAc**-1-P transferase.
AUTHOR: Kaushal G.P.; Elbein A.D.
CORPORATE SOURCE: Department of Biochemistry, University of Texas Health Science Center, San Antonio, TX 78284, United States
SOURCE: Federation Proceedings, (1985) 44/5 (No. 5832). CODEN: FEPRA7
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English

L7 ANSWER 35 OF 36 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
ACCESSION NUMBER: 85:176321 SCISEARCH
THE GENUINE ARTICLE: ACZ71
TITLE: **PURIFICATION** AND PROPERTIES OF UDP-GLCNAC-DOL-**P-GLCNAC**-L-P TRANSFERASE
AUTHOR: KAUSHAL G P (Reprint); ELBEIN A D
CORPORATE SOURCE: UNIV TEXAS, HLTH SCI CTR, DEPT BIOCHEM, SAN ANTONIO, TX, 78284
COUNTRY OF AUTHOR: USA
SOURCE: FEDERATION PROCEEDINGS, (1985) Vol. 44, No. 5, pp. 1408.
DOCUMENT TYPE: Conference; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: No References

L7 ANSWER 36 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 12
ACCESSION NUMBER: 1982:205063 BIOSIS
DOCUMENT NUMBER: PREV198273065047; BA73:65047
TITLE: BIOSYNTHESIS OF LENS GLYCO PROTEINS 1. FORMATION OF POLY PRENYL LINKED SACCHARIDES IN LENS CELL MEMBRANES.
AUTHOR(S): MENTABERRY A [Reprint author]; IDOYAGA-VARGAS V; CARMINATTI H
CORPORATE SOURCE: INSTITUTO DE INVESTIGACIONES BIOQUIMICAS FUNDACION CAMPOMAR AND FACULTAD DE CIENCIAS EXACTAS Y NATURALES, OBLIGADO 2490, 1428 BUENOS ARIES, ARGENTINA
SOURCE: Experimental Eye Research, (1981) Vol. 33, No. 5, pp. 563-576. CODEN: EXERA6. ISSN: 0014-4835.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB The formation of lipid sugar intermediates behaving like dolichyl-P-Glc [glucose] dolichyl-P-Man [mannose], dolichyl-P-**P-GlcNAc** [N-acetyl-glucosamine] and dolichyl-P-**P-(GlcNAc)**2 in membranes derived from chick embryonic lens are described. The reaction products obtained upon incubation of membranes with UDP-[14C]Glc, GDP-[14C]Man and UDP-[14C]GlcNAc were indistinguishable from the corresponding sugar

derivatives of **rat** liver dolichyl-P. This was concluded using the following criteria: effect of detergent, divalent cations, exogenous dolichyl-P and nucleotides on product formation; lability to acid and alkaline hydrolysis; behavior on DEAE-cellulose column chromatography and TLC. The 1st step in the approach to elucidate the mechanism of protein glycosylation and the identification of lens glycoproteins of the asparagine type is represented.

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FILE 'HOME' ENTERED AT 11:50:56 ON 12 DEC 2003